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OCTOBER 2001 NO. 62

New Pro Macs

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- The New G4: Why It Screams
- First Hands-On 867MHz Review
- OS X 10.1: It's Ready—Are You?

Why Microsoft Is Your Friend

PLUS:

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Charting Tricks in Excel

Nikon Coolpix 995 Rated

Alice Unchained!

page 64

Avoid the Terminal • Lara Croft Stumbles

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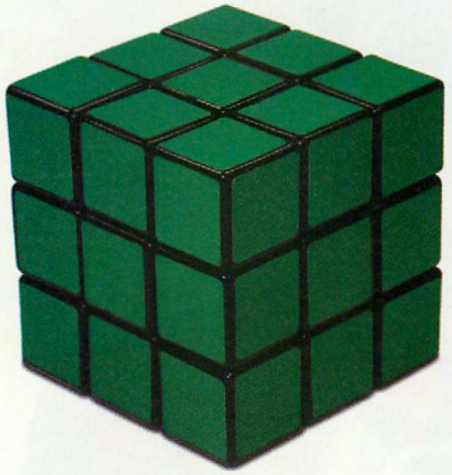

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contents

No. 62 October 2001 Volume 6 Issue 10

MacAddict
A better machine. A better magazine.

highlights

20 Sleek and Smooth
If you liked Blue Dalmatian... well, you're out of luck. Apple's latest—the chic new G4, patternless iMacs, a refined Mac OS X, and a less-rigid iDVD—all pack incredible power under the slickest exteriors to date. **by Rik Myslewski and Ian Sammis**

Heigh-ho Quicksilver!

26 150 Shareware Gems
Are you about, oh, $600 short on the price of Photoshop? Do you cringe at handing over $450 to Microsoft? Then check out our picks for the top 150 shareware and freeware apps. From the most popular gems to a few diamonds in the rough, here are the best that practically no money can buy. **by Kevin Savetz**

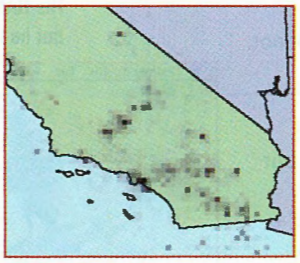
Sucrets: now in orange, lime, and grape.

38 Renewing the Faith
There was a time when Mac lovers would rather eat soap than say anything positive about the Evil Empire. Well, no more. Microsoft has transformed itself from the dross of the Mac community into a top Mac developer. Here's the inside scoop on how one small yet passionate group of Mac fanatics turned it all around. **by Cathy Lu**

Get your claws off of me...

how to

66 Plot a Density Graph in Excel
The simplest and often most useful 2D chart type imaginable, the density plot, somehow got left out of Excel. Here's how to make 'em anyway. **by Ian Sammis**



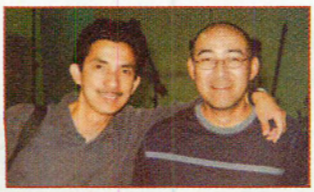
SoCal's latest disaster: acne.

68 Avoid the Terminal in Mac OS X
If learning how to use Mac OS X's Unix-based command-line interface sounds like as much fun as listening to rabid PC types try to explain that daft "Windows trapped in other Windows" concept, here's some good news: You almost never actually *have* to use the Terminal. Here's how to master OS X geekery without leaving the comfort of the GUI. **by Ian Sammis**

The evil psychedelic larva had to be stopped.

Hey, it's Digital Droo-cilla!

72 Trace Photos with Illustrator
If you've ever wondered how to accomplish those little sketches that often show up next to our "Staff Rants," here's your chance to find out. Our former art director took some time out of his new (if no less debauched) life in Japan to tell us how to sketch photos in Illustrator. **by David Ross**



This month's cover photo was taken by Arnold Tiosejo (left), assisted by Jun Nagaoka (right).

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contents

every month

6 Editor's Note
He's new. He's old. He's Editor in Chief 4.0.

10 Letters
Express what you've got, baby, ready or not.

12 Get Info
Mac Expo New York 2001 may not have been the industry's best performance, but we found a few gems to send your way. Poe shares her Pro Tools secrets. Apple's finances need a little perspective. Plus, what happens when the power goes out, and one not-so-little Mac book.

19 Scrapbook
Are you the type type? Explore the nuances of the most tantalizing typefaces.

42 Reviews
Trick or treat—given the choice, we'll be greedy and take the latter. Check out the latest apps and appliances: Bryce 5, the Power Mac G4 867MHz, Tomb Raider Chronicles, Nikon Coolpix 995, Absynth, Cinema 4D XL 7, Boa FireWire CD-RW, Tropico, three flat-panel LCD monitors, Pong, and more. Tricks and treats indeed!

64 Powerplay
Between Alice and WingNuts, it was tough to tear ourselves away from the fun long enough to actually *write* this month's section! We've also got some of the details on ATI's new drooler, the Radeon 8500.

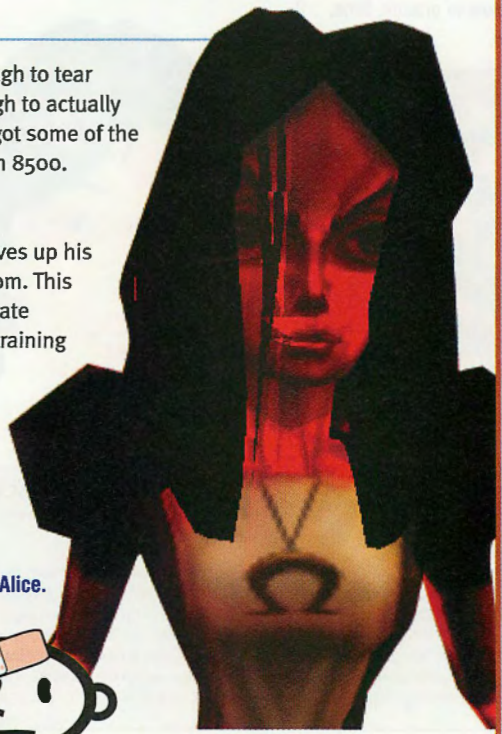
76 Ask Us
Our resident Mad Texan, Buz Zoller, serves up his usual mix of tips, tricks, and geek wisdom. This time we've got the scoop on Virtual Private Networks, Mac OS X on 9500s, and restraining the Chooser's overenthusiasm.

96 Shut Down
Bad chimpanzee! (Or should that be "Bad pundit"? I can never remember.) Let's dance to the jolly light of the M4402 power supply.

His RAM is real, but he is not.

I dance to live. I live to dance. Wait, I'm breaking up.

Gee your hair smells terrific.



The prom wasn't going well for poor Alice.

It's Rik, the accident-prone EIC! C'mon people, no heavy breathing on the Quicksliver! Gail, could we make it without you? No.

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editor's note

The new kid on the block ain't no kid.

Hi, my name's Rik Myslewski. I'm the new editor in chief of *MacAddict*, and I'm an old guy—but that's A Good Thing.

How old am I? I remember carbon paper. I remember circular typewriter erasers with little green brushes. I remember the invention of Liquid Paper, Post-it Notes, and Moore Push-Pins ("The Successor to the Thumb Tack!" their packaging modestly boasted). *That* old.

Having been around since Truman—and no, I don't mean the Jim Carrey character—gives me a certain perspective. Some history: I fell in love with the Mac after spending a long night and early morning playing with MacPaint on a 128K back in 1984. As the Mac went through its tumultuous early years, I followed its every rise and fall with elation or despair. Finally, I realized the Mac was an idea so good, and so beloved by legions of devoted followers like myself, that it was certain to survive and thrive. My early crush mellowed into a lifelong partnership.

From then on, the fluctuations in Apple's fortunes no longer bothered me—hell, I lived through Sculley, Spindler, and Amelio, not to mention the Two Mikes (Markula and Scott) and of course Jean-Louis the gasman. Apple's history is littered with broken careers, but the Mac lives on, stronger than ever. It's that powerful. It's that important.

Apple's history is littered with broken careers, but the Mac lives on, stronger than ever.

Looked at from a long-term perspective, today is a fabulous time to be a member of the Mac faithful. Some of us grumbled this summer when Steve made no earth-shaking announcements at his Expo keynote—but, for criminy sakes (that's old-guy speak for %$#@!), look at all that Apple has pumped out this year: an operating system that leapfrogs the competition's *next* release, a stunning line of truly droolworthy laptops, new G4s faster than a Congressman's flip-flop, and

Rik's current main squeeze is his beloved TiBook. His 17 previous Macs are jealous.

an iMac line that's...well, kinda sorta better than before. Oh, and then there's the iTrio: iMovie, iTunes, and iDVD.

Sure, we have quibbles galore. And sure, it's our job here at *MacAddict* to point them out, whether they're major (at release, Mac OS X was as buggy as a two-dollar-per-night hotel room in Managua, and the iMac is getting mighty long in the tooth) or minor (iTunes still doesn't have an equalizer like its genetic precursor, SoundJam, and many of iDVD's oh-so-cutesy themes seem to be made of cheese).

But compared to the days when a boxy beige 128K Mac with a 400K floppy retailed for $2,495, I'll take today, thank you.

And the Mac is not the only success story I've enjoyed over the years. From my former perch at the late, lamented *MacUser*, I also watched *MacAddict* grow as founding editor in chief Cheryl England, my predecessors Robert Capps and David Reynolds, and a take-no-prisoners staff of brilliant fanatics built this magazine into a powerhouse of insider intelligence, inspired irreverence, and indispensable independence. *MacAddict* has been a good read since page one of issue one—and now we're going to make it even better. But don't worry for an instant that your favorite Mac mag will lose its inimitable spirit. Even we old folks like to have fun.

So keep reading. And if you have any ideas, complaints, suggestions—or even reminiscences—I can be reached at rik@macaddict.com. Hope to hear from you.—*Rik Myslewski*

Staff Rants

Ian Sammis

Very Senior Graduate Student

Q. *What invention changed your life?*

A. Tylenol. Absolutely the best performance-enhancing drug on the market—it'll let you work right through exhaustion headaches, minor injuries, and the usual wear and tear that klutzes like me tend to incur more frequently than not.

Q. *Has maturity brought you wisdom?*

A. Given that I have neither, I can't really say.

Leslie Brown

Option Command

Q. *What invention changed your life?*

A. Multiangle, multiversion Criterion-style music DVDs with bonus remixes and alternate versions of videos from Germany. Whoever came up with this idea *must* have been thinking of me.

Q. *Has maturity brought you wisdom?*

A. I'm wise enough to take very good care of my toys.

Chris Imlay

Senior Aestheditor

Q. *What invention changed your life?*

A. I know I'm supposed to say the cotton gin...or according to James Burke, the Roman army's method of combat formation, but I'm going to have to go with the invention of The Joke.

Q. *Has maturity brought you wisdom?*

A. Very little—but on a silver platter.

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—Bubba
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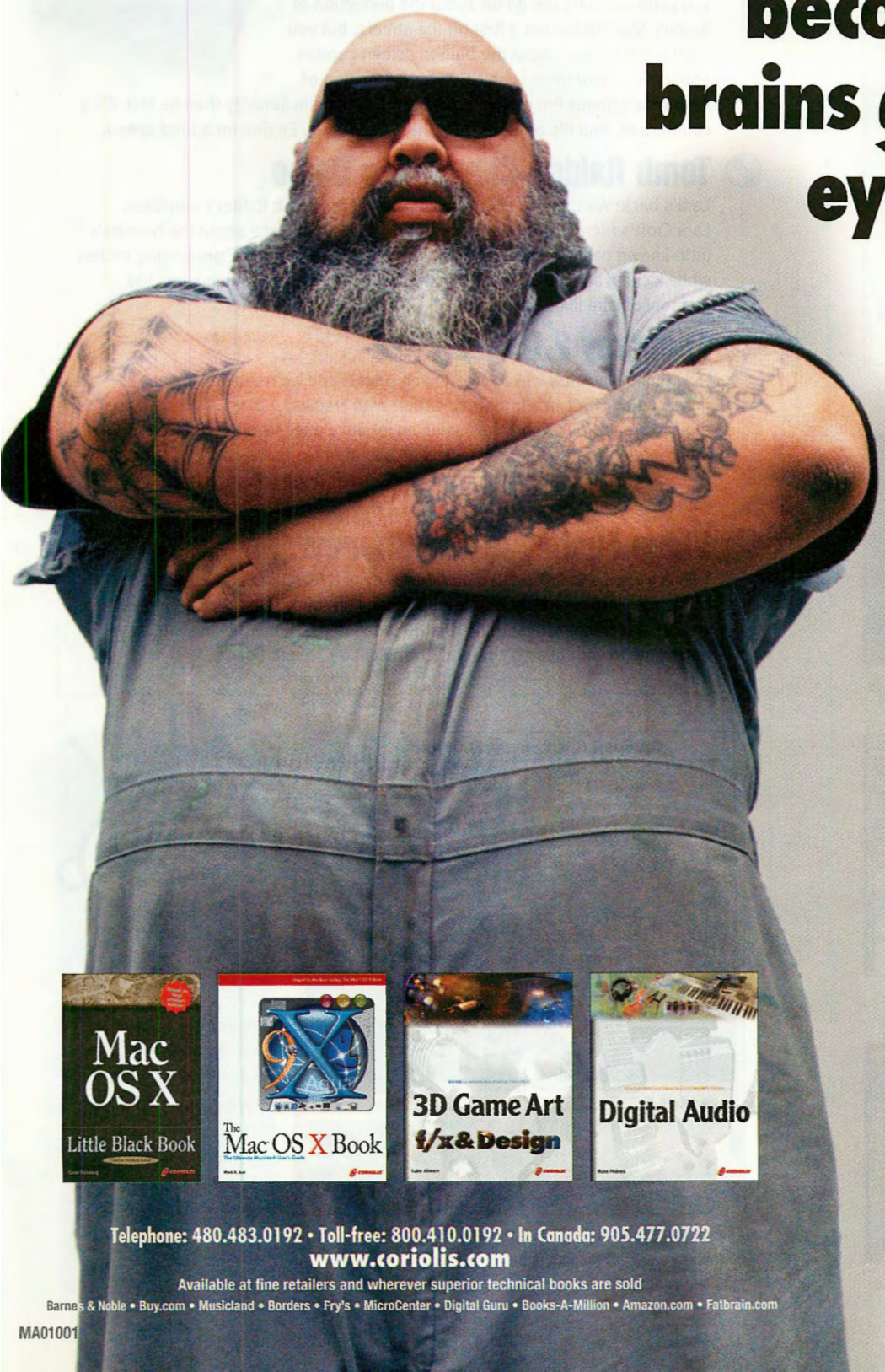

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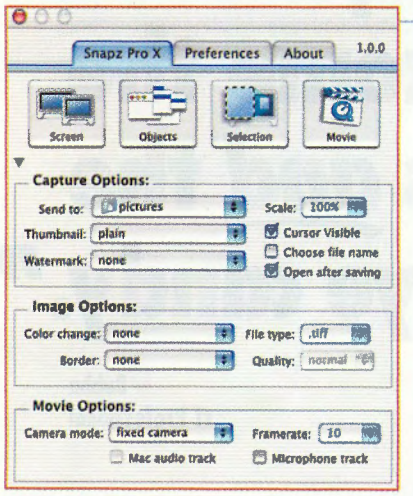
Including nearly all of the 150 shareware gems in our feature story (see page 26)!

The Phat Disc

Snapz Pro X 1.0 Shareware

You early adopters can go on about the perfection of Apple's Mac OS X when it first hit the streets, but you can't say the same about the built-in screen-capture application. Now there is an OS X–native version of Ambrosia's Snapz Pro utility. It offers even more functionality than its Mac OS 9 counterpart, and it's optimized for the G4's Velocity Engine for added speed.



Thank the gods—Snapz Pro has arrived for Mac OS X.

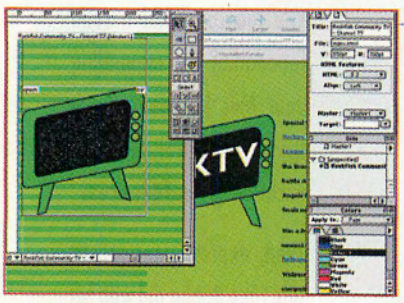
Tomb Raider Chronicles Demo

Lara's back! Wait, haven't we said that before? In Tomb Raider Chronicles, Lara Croft's friends gather after her memorial to reminisce about the heroine's little-known past exploits. As Lara, you will relive the stories, uncovering secrets while kicking an arse or two in the process. Like a never-ending story, the memory of Lara lives on.

You can't touch Jolie, but the real Lara Croft is in your hands.

Freeway 2.0.3 LE Free

Now there is an easy way to create Web pages, and we're not talking about hand-coding HTML in SimpleText, either! With Freeway 2.0.3 LE, you have the tools to create your Web pages using an intuitive page-layout interface—for free! But don't settle for the free version's limited features—check out the Freeway 3.0 demo, also included on The Disc, and see how far you can take your imagination.



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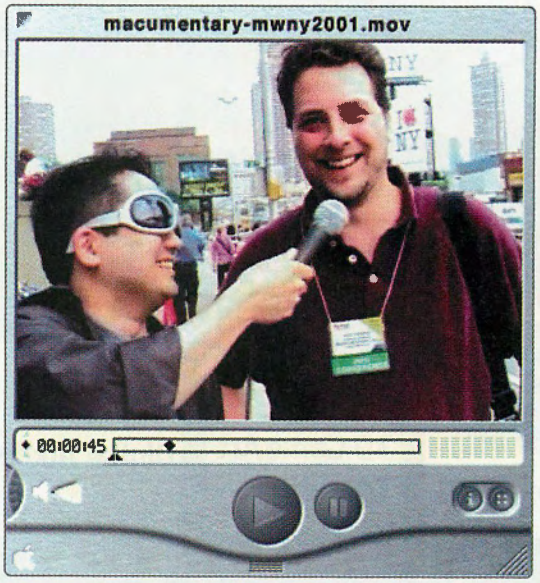
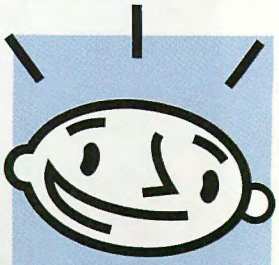
Video Funhouse 1.1 Shareware

This is for the kooky lot in the audience. Invite a few friends over, plug a DV camcorder into your Mac, and fire up Video Funhouse. Can't find a carnival near you? This is the next best thing. Distort video in real time. Pinch, swirl, wave, and ripple to your heart's content. Cotton candy not included.

For a good time, take a poke at your own face.



A few attendees from the 2001 Macworld Expo in New York offer some words of wisdom in a special Macumentary put together by Adam Tinkoff.



Bonus!

Every month we'll have bonus materials on The Disc for you to check out.

This Month

October Nitrozac comics; "Best of Mac Show Live," volume 4; Bert's Unix tutorial part 1; *Inside Microsoft* video.

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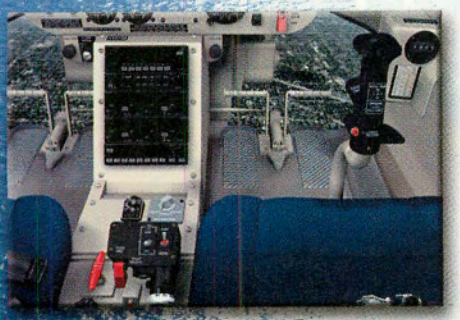

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THE APPLE OF OUR A.I.

My wife and I saw the movie *A.I.* last night. In one of the later scenes, the boy David is walking through his creator's office. Lo and behold, what appears in the background? An iSub—a generous shot of it, I might add. It goes to show that outrageous speaker designs for today's Mac fit right into tomorrow's world.—*Miles Wurster*

NO

I was reading the article "Why the Cube Won't Sell" (*Get Info*, Aug/01, p12), and I couldn't help but notice that you stated it competes "squarely" with the iMac family. Was the pun intended?—*Ben*

HIDDEN VALUE BRANCH

I have to agree with Dave Reynolds about iTools (*Editor's Note*, Aug/01, p8)—iTools *is* useful. A recent motorcycle accident left me pretty banged up, and the most irritating part was the damage to my left hand and particularly my shattered left index finger. Enter iTools and the absurdly easy manner in which it lets you make a Web page full of photos. I could do it all on my iBook with my right hand! Kudos to Apple for once again giving me a tool I didn't even know I needed.—*Peter L. Wargo*

OUR AIM IS TO OBFUSCATE

I just got the August issue and noticed "The Obscure Joke Reference" in *Shut Down* (p96). I read this before I read the rest of the page. I've loved the writing style of your publication for some time, but this "Obscure Joke Reference" thing is big! Being a 27-year-old movie-loving Mac nerd, I get about 95 percent of your in-jokes. However, this guide would be a great way to introduce newbies to our culture.—*Paul Threatt*

SEXY, SEXIST, OR JUST PLAIN MISSED SARCASM?

A veritable hat trick of sexist exploits has ruined the August 2001 issue for me. "E3 Booth-Babe Trading Cards" (*Get Info*, p13) is insulting on too many levels to even list here. In your illustration of an *Ask Us* question (p72), two women are visibly bored listening to Mac trivia, while the boys are entranced. The grand finale is "The Joy of Tech" (*Shutdown*, p96), which suggests that women are good targets for surreptitious ogling. For the love of God or Goddess, please make it stop.—*Sarah Beckley*
Thanks for the note. We'll be on a closer lookout for sexist innuendo in future issues; however, both Woody Woodpecker and the Viking boys are deeply insulted that you don't consider them babes worth ogling.—Ed.

ANONYMOUS ANDREW?

Ha! I'm using your own information against you! Thanks to your article "10 Things You Don't Know How to Do and Probably Shouldn't," detailing how to send anonymous email (Apr/01, p26), you'll never know who sent this.—*Andrew Oates*

MAKE LOVE, NOT BUGS

I just had to say that I loved the August cover, the one with all the bugs on it. That was cool. It made me wanna squish them just like the guy on the cover. Yeah. I wanna do that.
—*Ed Larkins, Mac extremist*

THAT'S PROBABLY NOT GOING TO HAPPEN

Thank you for covering Mac OS X in a recent issue ("Brave New World," Jun/01, p24). It helped confirm what I had already decided—I want nothing to do with that operating system. My hope is that Mac OS X will fade away or die a sudden death. My fears are that manufacturers will neglect previous operating systems in favor of Mac OS X and that *MacAddict* magazine will do the same.
—*Mike Bush*
Never fear, Mike, we're all about the Mac experience, not just the Mac operating system. Now, where is that Mac OS 6.0.7 tips story I was working on?—Ed.

WANT ANYTHING ELSE? HOW ABOUT OUR FIRSTBORN?

How sweet it is! Your article "How to Install the X Window System" (Aug/01, p64) put me in serious heaven. Now may I request that you finish the job by doing two more articles—one on installing Gnome and Enlightenment, and another on installing KDE and Konqueror. Of course, you'll put all the necessary software on The Disc. It would be great if you could publish these articles in a three-part series. If you decide anytime soon to do this, please give me a heads up.—*The Tiger*

ANOTHER REBEL VICTORY

I finally got the courage to crack the case of my Motorola StarMax Mac clone and start playing. Well, something went terribly wrong in the process, so I put it under my desk for another day. Miraculously, your August issue showed up with the answer. "Problem 10: Deathintosh" (p22) sounded like my situation, so I tried your solution and it worked! My Mac is back and better than ever.—*Jim Brown*

DROO'S TOUR DATES

The best track on The Disc in July 2001 was Digital Droo's (Andrew Tokuda's) rave music on the staff video. Awesome. How about featuring him in a *MacAddict* tour?
—*Ken Alan*

A CLUNKY ACROBAT?

Freakin' Awful is how I would describe both the reviewer and the review of Adobe's Acrobat 5.0 (*Reviews*, Aug/01, p38). First of all, Acrobat 5.0 eliminates a major set of features present in version 4.0—specifically Paper Capture (which creates text-searchable scanned documents). Instead, you have to email your scanned documents to a service for capture. So much for privacy and confidentiality in any legal matter! Plus, Acrobat is now slower than dirt. And I thought Microsoft Office sucked. Adobe just one-upped Redmond.—*Bob Burk*

SQUASHED BUGS 101

I teach an elective Mac-repair class to a dozen 13-year-olds. We complete every service from RAM upgrades to motherboard replacements. Your article, "50 Biggest Mac Problems" (Aug/01, p20), could serve as a textbook for my class. Anyone with experience knows how to solve Mac problems, but it is a big challenge to teach kids a career's worth of tips fast so they can start repairing Macs.—*Dave Traversi*

ASK, AND YOU SHALL RECEIVE

Where is the Carbon version of the Disc? I don't want to use Mac OS 9 anymore.—*AndyB.*
A Carbon version of The Tour on The Disc first appeared in our September 2001 fifth-anniversary issue.—Ed.

get info

Start spreading the news...

Around the Big Apple

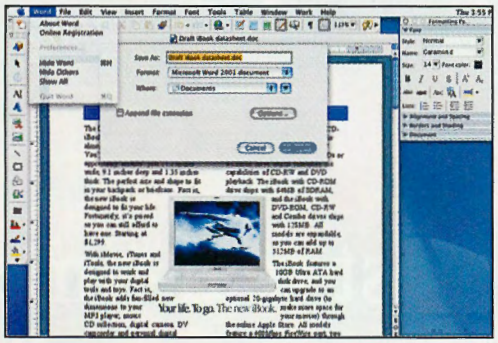
The Brighter Moments of Macworld Expo New York

Hearts sighed and heads drooped at Steve Jobs's keynote address, which was lackluster compared to previous years' kick-offs. Still, more than 64,000 people attended July 2001 Macworld Expo in New York City, an increase of about 4,000 attendees, according to stats. Mac fans tried out products and technologies from more than 270 "other" companies in attendance, and we eventually saw some smiles—thus proving that Macworld Expo in the Big Apple consists of more than, well, the big Apple.—*NR*

Office 10 for Mac OS X

(Microsoft, www.microsoft.com/mac, price TBA)

In the grandiose style befitting a software behemoth, Microsoft's Mac Business Unit general manager Kevin Browne (see p38 for his portrait) unveiled Office 10 for Mac OS X. Taking advantage of Mac OS X's Quartz Drawing Layer, Excel charts can now include beautiful antialiased graphics and use true transparency. PowerPoint offers better animation, and Word has new text-formatting features. Microsoft also demonstrated Windows Media Player for Mac OS X and announced MSN Messenger 2.0, also carbonized.



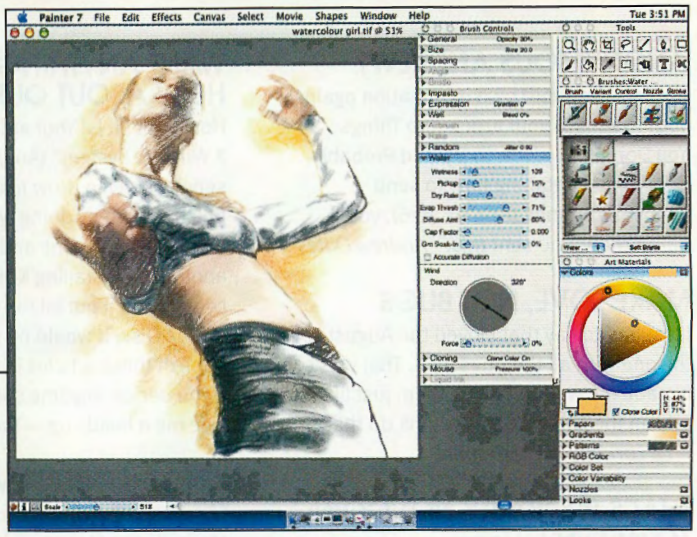
Word to your palettes, which are now transparent.

PowerMate

(Griffin Technology, www.griffintechnology.com, $45)

Everyone could use one of these. The PowerMate is officially a USB audio controller, which you can use to control the volume on your Mac or within your audio apps. Unofficially, however, you can program the PowerMate to become a power button, game controller, or miniature time travel machine.

This eerie, blue glowing device is as cute as a button.



Paint à la 80's MTV.

Painter 7

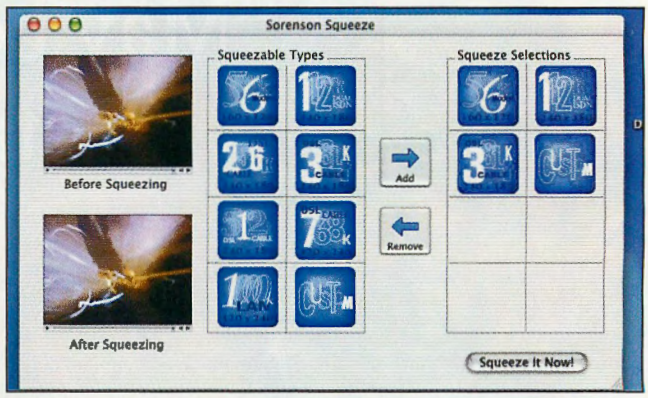
(Procreate, www.procreate.com, $479)

A carefully disguised Corel came to New York to show off Procreate, a line of products that includes former Metacreations products Painter and KPT, as well as Knockout. Painter 7, available for both the classic Mac OS and Mac OS X, provides artists with hundreds of brushes to simulate paint styles like watercolor and thick, gooey ink. Painter 7 also includes improved text tools, perspective grids, and increased compatibility with Photoshop. The new Painter looks impressive, and we hope the revamped Corel has learned from past Mac-tastrophies (think the disappearance of WordPerfect). New versions of KPT and Knockout are scheduled for release this fall, and a new version of CorelDraw is due out later this year.

Squeeze

(Sorenson Media, www.sorenson.com, price TBA)

Between high-end Sorenson compression products and the QuickTime option you find in iMovie, lies Squeeze, a new mid-level compression app aimed at Web video professionals. It will offer the Sorenson Video 3 and MPEG-4 video codecs, as well as the Qualcomm PureVoice, QDesign Music 2, Fraunhofer MP3, and IMA 4 audio codecs. Its simple, one-window interface will appeal to beginners, while experts will want to tap into the advanced controls. Squeeze will be available in the fourth quarter of 2001.



Here's your main Squeeze on Mac OS X.

MacAddict's Extremely Unofficial Expo Awards

We wouldn't be a serious media outfit if we didn't offer our unsolicited opinion on the best and worst of New York City's Macworld Expo 2001. After all, you wouldn't want to form your own untainted opinion, would you?
—*Whitney Hess and Narasu Rebbapragada*

Most Anticlimactic Moment: the Keynote Address

Steve Jobs could have explained the actual news in about half an hour, instead he padded the two-hour long address with congratulatory clapping, an academic diatribe on the Megahertz Myth, and a faltering digital camera demo.

PHOTOGRAPH COURTESY OF SONNET

The eensy, weensy flash drive is small enough to crawl up the waterspout.

Piccolo

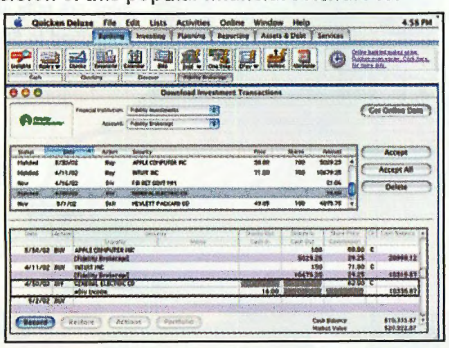
(Sonnet Technologies, www.sonnettech.com, $99.95 to $599.95)

Jumping on the bandwagon to make things teeny and tiny, Sonnet Technologies announced Piccolo, a thumb-sized USB storage device you can plug into any cross-platform USB-equipped computer. The Piccolo comes in 32MB to 256MB sizes, and all but the largest size should ship by the time you read this. As usual, size has its price, so don't lose these little buggers.

Quicken 2002 Deluxe for Mac

(Intuit www.quicken2002.com/mac, $59.95)

Bean counting just got a little bit more exciting. Intuit announced that it would build the new version of this popular financial software for Mac OS 9 and Mac OS X. New features include expanded ability to download data from financial firms (such as Fidelity and TD Waterhouse), and a Capital Gains Estimator.

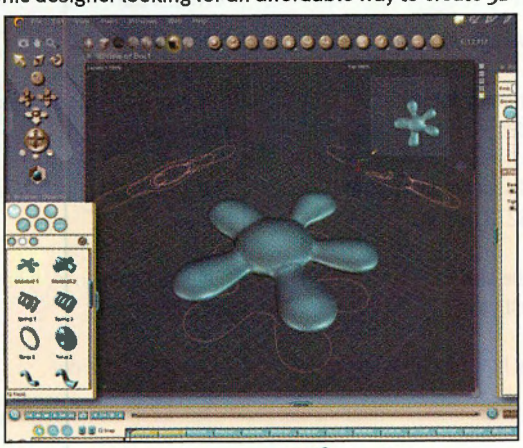


Sexy, isn't it?

Carrara Studio

(Eovia, www.carrara.com, $400)

Eovia adopted the former Metacreations orphan and re-released Carrara Studio with a slew of bug fixes, 25 new plug-ins, and a free version of Amapi version 5. The application is aimed at the serious hobbyist or graphic designer looking for an affordable way to create 3D animation. (For more information on 3D graphic apps, see "Mac 3D: The Comeback Kid," right.)

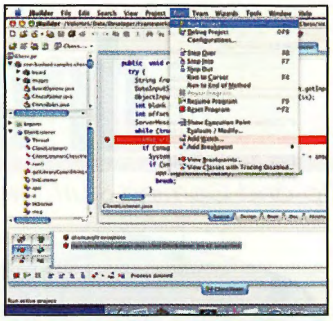


Despite its slightly foreign interface, Carrara is one of your easiest "ins" to the 3D world.

JBuilder 5 for Mac OS X

(Borland, www.borland.com, price TBA)

Java developers will jump for joy at the news that Borland is closer to bringing JBuilder 5 to Mac OS X. JBuilder 5 is the popular Java 2 Standard Edition development environment for Web, XML and database applications. Borland announced availability of a beta version at Apple WWDC conference in May and expects to make a final version available later this year.



If you're into Java2, this one's for you.

Mac 3D: The Comeback Kid

Eovia's Carrara (see bottom left) is just one of several programs that mark a resurgence of 3D apps for the Mac at all levels of expertise.

Artist Andrzej Witbrot created this piece with Strata 3D.

Strata 3D

(Strata, www.strata.com, free to $895)

Back with a new open source–style business model, Strata was showing off its Strata 3D line-up, which it is close to Carbonization. The company is focusing on Web markets, targeting graphic designers who want to make 3D elements for rich media. Its free timed-out demo, called Strata 3Dbase, is one of the easiest ways for newcomers to explore the world of 3D.

Animation Master 9

(Hash, www.hash.com, $299)

Hash demonstrated Animation Master version 8.5 at Macworld Expo, and Animation Master 9 should be available by the time you read this. Aimed at hobbyists, the program lets beginners experiment with features like object modeling, inverse kinematics, ray-tracing, and image mapping.

LightWave

(Newtek, www.newtek.com, $2,495)

A heavy-hitting 3D company, Newtek announced Mac OS X compatibility for its current 3D product Lightwave 6.5. Lightwave has already been used in movie favorites like *Charlie's Angels*, *How The Grinch Stole Christmas*, and *X-Men*, and it's about $5,000 less than Alias|Wavefront's Maya.

Maya for Mac OS X

(Alias|Wavefront, www.aliaswavefront.com, $7,500)

More than one year after Alias|Wavefront announced its intent to bring Maya to Mac OS X, we're still waiting. The company announced at Macworld Expo that this Hollywood-level product (used in *Final Fantasy* and *Star Wars: Episode I*) will be available September 25 and will include Maya's latest rendering technology.

Best T-shirt: .sit Happens

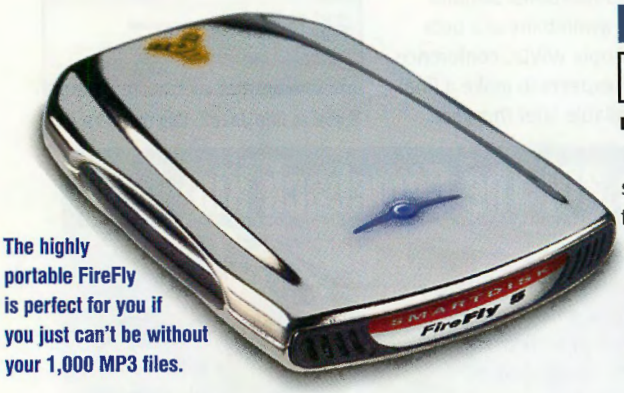
Aladdin Software takes the prize with this humorous T-shirt slogan. We'll refer you to those two kind words if you start complaining that the shirt doesn't fit.

Coolest Concept: the P5 Glove

The last time a glove was so cool, Michael Jackson was singing "Beat It." Scheduled for release in late fall, this device (for Mac OS X only) will let gamers use hand gestures to control movement in 3D games.

drool worthy

Up-and-Coming Stuff We Can't Wait to Get Our Mitts On



The highly portable FireFly is perfect for you if you just can't be without your 1,000 MP3 files.

FireFly

SmartDisk	www.smartdisk.com	$399.95

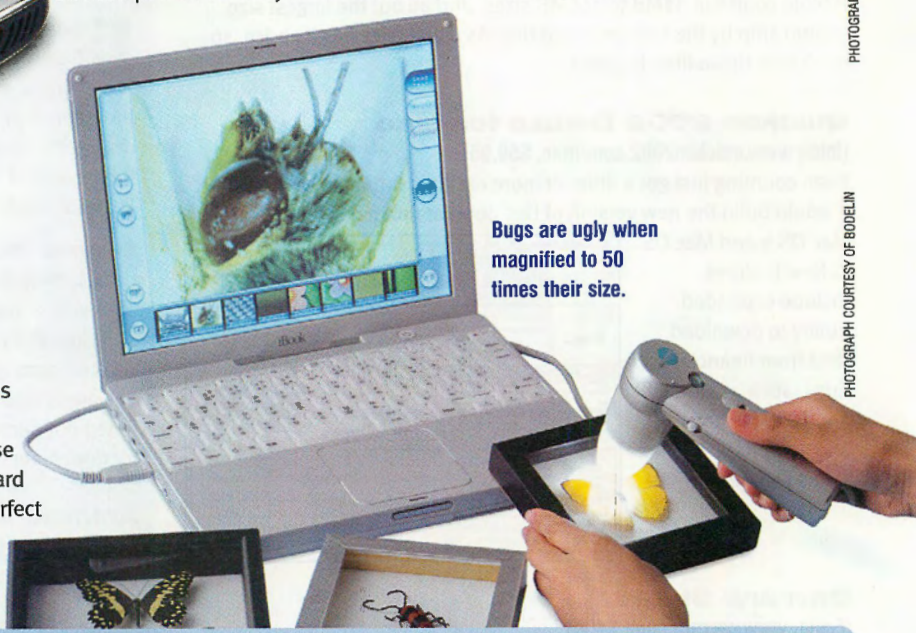
Too bad the Coors Brewing Company nabbed the Silver Bullet motto, because SmartDisk could have used it to describe their ultrathin, supershiny 5GB FireFly FireWire drive. Only 4 inches long and .5 inch thick, this bus-powered beauty should be available in October 2001.—*NR*

PHOTOGRAPH COURTESY OF SMARTDISK

The Scope USB Microscope

Bodelin	www.bodelin.com	$199.99

While it's about as attractive as an Epilady, this gadget is pretty cool. This handheld USB microscope lets you snap still images and time-lapse movies at 50X magnification. It comes with a standard tripod mount and backlighting for easy viewing—perfect for examining live insects, dead bodies, and other objects we haven't thought of yet.—*NR*



Bugs are ugly when magnified to 50 times their size.

PHOTOGRAPH COURTESY OF BODELIN

Comparing Apples to Apples | *Interpreting Apple's Third-Quarter Financial Results*

Apple announced a $61 million profit for its 2001 fiscal third quarter. This news is good given this year's turbulent economic climate, but it's not as good as the $200 million profit of last year's fiscal third quarter. Apple CFO Fred Anderson may be dismayed by the 70 percent reduction in profits from last year, but he shouldn't fret—Apple is in good company. Here are some other things that are good, but not as good as they were last year.—*NR*

Thing	Last Year	This Year
Mark McGwire	His batting average was .305.	It dropped to .205.
Christina Aguilera	She won a Grammy for Best New Artist.	She was nominated for Best Latin Pop Album, but she lost.
Yahoo	Yahoo posted second-quarter net revenues of $273 million.	This year that figure is down to $182 million.
A Bottle of Molasses	If you broke the seal at this time last year...	...the goo's no good. It has a 1-year shelf-life.
The President	Who won? By how much? Who voted?	At least we have one.

MacAddict's Extremely Unofficial Expo Awards

The "Old Dog, New Trick" Award: Rear Projection Smart Board
The electronic whiteboard thing is not so new, but scrawling your notes on the board and then moving them around with your fingers is pretty darn cool.

Most Effective Marketing: Corel aka Procreate
Corel hosted a big attention-grabbing booth, but you'd never know it because its name was nowhere to be found. Corel reinvented its Mac line-up—Painter 7, KPT, and Knockout—as Procreate.

In the Studio

Poe's Tools

After her first album, *Hello,* went gold, Atlantic recording artist Poe set out to make a record that, in her words, "could only be created on a computer." Armed with a Power Mac 9600 and a Pro Tools system, she emerged two years later with *Haunted*, a critically acclaimed album that includes the hit single "Hey Pretty." *MacAddict* caught up with Poe (on tour with Depeche Mode) to discover how she mixed music with voice to create that *haunting* sound.—*Michele Stotz*

***MacAddict:* Why did you decide to use a Power PC 9600?**

Poe: With six PCI slots, it was the best choice at the time. I want a G4 now because FireWire makes the process so much easier. I also need cheaper drives since I'm undergoing an archiving process with files spread out over 15 drives. One bad SCSI cable, and you're dead.

***MacAddict:* What are your favorite plug-ins and tools?**

Poe: I love the Renaissance compressors and EQs [Waves' Renaissance Collection TDM 3.2] for the warmth they bring to digital sound, although I think the DSPider TDM 1.3 is probably my favorite plug-in for all its distortions and delays. I used it to create the crazy, filtery sound of the drums at the end of "Wild" [on *Haunted*].

Another incredible tool is my Aardvark. It's an external universal time-code generator that syncs all your machines. Some people say your interface makes a big difference in the final product, but this little Aardvark made a bigger contribution than anything.

***MacAddict:* Did you use any special tools to record your voice?**

Poe: It's good to run your voice through something when you're going into the computer. I rented a really old Neve sidecar [a radio EQ] to soften the sound, in addition to using an Empirical Labs Distressor EL8 compressor and a Focusrite EQ. In the computer, the sky was the limit because I would record endless tracks and use plug-ins to find bizarre harmonies. For instance, with WaveMechanics' PitchBlender, I could just type in, "Track these four bars with a minor seventh on top of them," and instantaneously hear the results. There are things on the record that sound like strings or guitar, and it's actually my voice.

***MacAddict:* Do you have any advice for our readers?**

Poe: The computer is going to play back to you exactly what you put in it. It's tempting to say, "Oh, I have all these plug-ins, I'll fix everything later," but it's very time consuming to fix audio that doesn't sound great, and it's not always possible.

PHOTOGRAPH COURTESY OF POE

Poe and ProTools are a pretty combination.

A Few of Her Favorite Things

Hardware

- Power Macintosh 9600/350, Mac OS 9, 128MB of RAM, internal 4GB drive, external chassis with two MIX cards and "tons of DSP"
- Two DigiDesign 888|24|IO Precision 24-Bit Multi-Channel Audio Interface consoles ($3,695 each, www.digidesign.com)
- Aardvark TimeSync II ($1,295, www.aardvark-pro.com)
- Empirical Labs EL8 Distressor ($1,449, www.empiricallabs.com/distress.htm)
- Digidesign Focusrite ISA 110 Mic Preamp and EQ ($2,000)
- Neve sidecar, echoplex, wah pedal, sansamp

Software Favorites

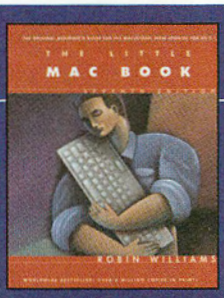
- Emagic's Logic Audio Platinum 4.7 ($799, www.emagic.de)
- Propellerhead Software's ReCycle 2.0 ($179, www.propellerheads.se)
- Waves' Renaissance Collection ($600, www.waves.com)
- DUY's DSPider ($1,195, www.duy.com)
- Wave Mechanics' PitchBlender ($495 as part of SoundBlender package, www.wavemechanics.com)

BOOKreview

***The Little Mac Book*, seventh edition. By Robin Williams, Peachpit Press, $19.99**

At 448 pages, *The Little Mac Book* by Robin Williams is not exactly little. This useful beginner's guide, updated for Mac OS 9.1—not OS X!—contains hefty sections on the basics of Mac hardware and the Mac OS.

The book covers everything from how to use a mouse to understanding hardware specifications as well as information on the Finder, System Folder, and control panels. Williams presents this information clearly and without a hint of condescension, pairing thorough explanations with helpful images from the desktop. Best of all, quizzes follow each chapter to make sure you're up to speed before you move ahead. While we've long since moved beyond beginner status, this book found a nice, not-so-little place on our bookshelf.—*Whitney Hess*



The prolific Robin Williams strikes again.

Most Obvious No Show: Adobe
Adobe had nary a booth nor meeting room at Macworld Expo. Officially, the company said poor economic conditions caused its absence. Unofficially, rumors abound that Adobe is feuding with Apple about Mac OS X and potential competing products.

The Crying "Wolf!" Award: Quark
With Quark Xpress 5 in perpetual beta, Quark's product manager Brett Mueller announced grand plans for a carbonized Mac OS X version. We'll believe it when we see it—and even then, we might not believe it.

Juice Boxes

Battery Back-ups Save Your Butt When the Power Goes Out

No power? No problem! With an Uninterruptible Power Supply (UPS), you can protect your Mac during unexpected brownouts, blackouts, and power surges.

A good UPS includes surge protection, a filter to protect against electrical noise (generated by other equipment), and a back-up power supply consisting of one or more rechargeable batteries. When shopping around, check the UPS's (Volt-Amps) rating. Typically, the higher the VA rating, the greater the electrical load the UPS supports, and the longer the runtime on battery power.

Here are three devices geared towards small or home offices. Each one includes automatic voltage regulation (to prevent battery drain during a brownout), user-replaceable batteries, and phone line surge protection. They also have indicators that tell you when the UPS is on-battery, when the device is overloaded, and when you need to replace the battery.—*Steve Becker*

PHOTOGRAPH COURTESY OF AMERICAN POWER CONVERSION

500 VA Back-UPS Pro USB
(American Power Conversion, www.apcc.com, $179.99 SRP)
The Back-UPS Pro USB features seven surge-protected outlets (four include battery backup), a two-year warrantee, an automatic self-test feature, and software for performing an unattended and controlled shut down of your Mac during a prolonged power outage (requires a USB port and Mac OS 9.0.4 or later).

PHOTOGRAPH COURTESY OF BELKIN

650VA Regulator Pro Gold USB
(Belkin, www.belkin.com, $179.95 SRP)
This unit includes eight surge-protected outlets (four with battery backup); 10Base-T Network surge protection with built-in splitter to protect multiple devices; a two-year warranty; and software for safe, unattended shut down (requires a USB port and Mac OS 9.0.4 or later).

PHOTOGRAPH COURTESY OF POWERWARE

Powerware 5115 500 VA
(Powerware, www.powerware.com, $300 SRP)
This model includes four surge-protected outlets (all with battery backup); surge protection for a 10Base-T network; reduced battery recharge time; a 60-day, money-back guarantee; and a 10-year prorated warranty. Techno-geeks might appreciate this model's pure sine wave output.

A Beta Way to Club

Aspiring Artists Gain Airtime with Airport

The glowing Apple logos on G3 PowerBooks seem strangely at home amidst lounge chairs, red curtains, and loud music. Add to the surreal mix two large projection screens, a dance floor, and a fully stocked bar, and you've got Club Beta—a lounge-bar in the beachside neighborhood of St. Kilda in Melbourne, Australia. Every Thursday night, the hip and tech-hungry converge here to see Mac-toting digital artists show their stuff.

Artists simply show up with a laptop or removable media and upload their work via Airport or Ethernet to Club Beta's G4 server. The club also has a lightening-fast ADSL line for artists wishing to submit work over the Net.

Retrieve, a local database and Web-development company, built the Filemaker/Lasso database that holds an extensive catalog of submitted art and, with the help of AppleScript, allows a live VJ to manipulate mood-enhancing images on two large screens. Musicians use their own equipment to blast tunes from their hard drives for a room full of people.

Jay Discount is one such musician. A classically trained pianist from New York City, he spent one night cranking out improvised tunes over a loop using Propellerhead Software's Reason on a new iBook—a loaner from his day job.

Club Beta is the brainchild of VJ Aqueous, aka Robin Macpherson. He believes the club's interactive environment will help artists show off their work.

"It's [Club Beta is] supported entirely by the participants," says Aqueous. "No one has to worry about commercial reality, whether their bosses like their work or not. They just do it for the sake of the art."

Club Beta invites interest and art from all over the world. To find out more, email beta@ishappening.com or visit www.clubbeta.com.—*Jon Southurst*

PHOTOGRAPH COURTESY OF CLUB BETA

Club-goers with laptops and Airport cards sit, sip, and surf.

MacAddict's Extremely Unofficial Expo Awards

The Horatio Alger Award: Freeverse Software
Quirky shareware developer Freeverse Software is joining the ranks of mainstream retailing. This fall, Aspyr Media will release iPuppet Classic Cards, a boxed CD of Freeverse card games.

The People's Award: Toon Boom Studio
Long providing animation to the stars, Toon Boom Technologies releases Toon Boom Studio, with an interface now so intuitive that even the masses can produce stellar animations.

iomega

EXTREMELY VERSATILE.
INFINITELY EXPANDABLE.

Peerless™: UP TO 20GB OF SPACE ON REMOVABLE DISKS

The new Peerless™ system is the affordable, flexible way to add extra space. It's fast, with transfer rates up to 15MB per second. It's reliable, featuring shock resistant, sealed disks. And it's fully modular and compatible with USB and FireWire™ interfaces. Is it any wonder it's called Peerless?

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TO LEARN MORE ABOUT PEERLESS DRIVES AND DISKS CONTACT US OR VISIT WWW.IOMEGA.COM.

iomega

The company that practically invented removable digital storage has done it again—in a very big way.

Introducing Peerless™ the groundbreaking storage solution from Iomega®. This sleek magnetic drive is super-fast, with transfer rates up to 15 MB/sec (with FireWire®). Compact and portable, the disk slides into a base station only slightly larger than the disk itself. In fact, the whole system fits in the palm of your hand. And Peerless is the first, true high-capacity removable storage medium with cartridges available in 10 or 20 Gigabyte configurations. That's right. Gigabytes. Adding extra space has never been easier.

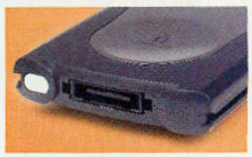
Peerless offers modular interchangeable connectivity, so you can switch between FireWire® and USB computer interfaces. And Peerless is tough. A built-in shock-absorption system protects against drops up to 30 inches—just in case. Plus, it features an exclusive design that keeps the read/write heads secure from crashes and sealed away from dust and other contamination.

With Peerless, you can back up an entire computer on a single disk. It's powerful enough to store all your files, fast enough to run applications straight from the drive, and versatile enough to go anywhere you do. And with up to 20GB on each disk, it has the capacity you want, plus the flexibility to expand easily and affordably.

Basically, Peerless offers all the space you need in one incredible, compact drive. It's the next big thing in removable digital storage. Would you expect anything less from Iomega?

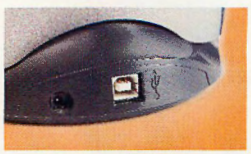
Peerless™ is compact (the entire drive fits in your hand), and tough, with built-in shock absorbers.

Peerless offers interchangeable 10GB or 20GB disks—there's always room to grow.



Read/write heads are integrated into each fully sealed Peerless disk, drastically reducing the risk of contamination.

With its high transfer rate, Peerless is fast enough to run programs directly from its drive.



The Peerless drive supports modular connectivity—you can switch between FireWire® and USB interfaces.

TO LEARN MORE ABOUT PEERLESS DRIVES AND DISKS CONTACT US OR VISIT WWW.IOMEGA.COM.

Type Talk

by Narasu Rebbapragada

With a plethora of fonts at our fingertips, it's easy to forget that typography's really a fine art. A type designer hand-crafts each letter to shine on its own in large display type or to blend harmoniously in smaller body type. Here's the skinny on what's in a typeface so you can get the most out of your type design—or at least sound smart at a cocktail party.

Fonts Versus Typefaces

Most people confuse these two terms. A *font* is a set of characters in a particular weight and style. A *typeface* is a family of fonts. For example, Helvetica Condensed Bold is a particular font within the Helvetica typeface.

Ascender

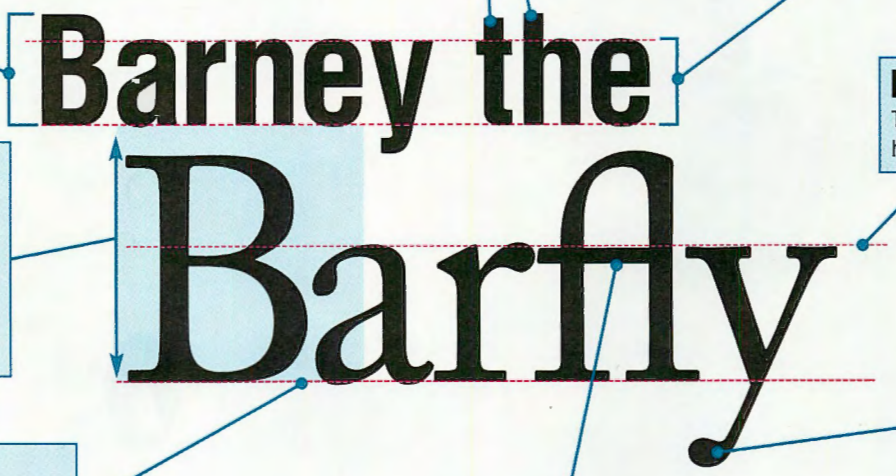
The portion of a character that rises above the x-height is the *ascender*.

X-Height

The *x-height* is the distance between the baseline and the mean line in a letter—in other words, the height of the lowercase letter x. X-heights vary from one typeface to another. As a general rule, typefaces with larger x-heights are easier to read at small sizes.

Cap Height

The *cap height* is the height of a capital letter in a given font.



Mean Line

The *mean line* marks the height of all lowercase letters.

Leading

The space (measured in points) from baseline to baseline between lines of type is called the leading. The leading for the word "barfly" is 95 points.

Descender

The portion of a character that dips below the baseline is the *descender*.

Baseline

The *baseline* is the invisible line on which type rests.

Ligatures

In the days of letterpress printing, when letters were cast on individual pieces of metal for typesetting, certain letter pairs—such as fl, ff, fi—couldn't be kerned closely enough on two separate pieces of metal, so they were designed as one character on a single piece of metal. These combined characters are *ligatures*. Today, only professional-level fonts include all the ligatures for a certain typeface. However, the keyboard combinations Shift-Option-5 and Shift-Option-6 yield fi and fl, accordingly.

Point Size

Font sizes are measured in *points*. A single point is about 1/72nd of an inch. The font you're reading now is 8-point Swiss721 Condensed. The words "Barney" and "the" are in 55-point Helvetica Condensed, while the word "Barfly" is in 118-point Caslon Regular.

Kerning Versus Tracking

Kerning changes the space between two individual letters. Particularly when you're dealing with large type sizes, the spacing between letters can look uneven. You can adjust this with kerning, but take care not to overdo it—you'll end up with uncomfortably tight spacing or character groupings that don't seem natural to the eye. *Tracking* alters the space between letters in a larger string of text, such as a paragraph. Don't overtrack or the words will look crunched or spaced out and will tire readers' eyes.

Sans Serif

Fonts like Helvetica and Arial have no serifs, so they're called *sans serif* fonts. These are often used for display type, such as titles and headlines.

Serif

Serifs are the hats, or strokes, that adorn the tips of letters. Serifs are useful for setting large amounts of small text (as in a book or magnazine article) because they guide the reader's eye from word to word. Times New Roman is a typical serif font, commonly used in newspapers.

The Latest from Apple

Sleek &

Sleek new designs. Smooth, upgraded OS X. iCatching iMacs and iDVD 2. Awesome low prices. Life is good.

A quiet revolution is transforming the Mac this year. Elegance and power are overthrowing flash and dash. Fruit-flavored iMacs? Gone. The only color left in the iMac line—or the entire Mac line, for that matter—is Indigo.

Purse-shaped iBooks and Darth Vader–style PowerBooks? Gone. The iBook and PowerBook G4 have introduced clean, lightweight design to our favorite line of gotta-have notebooks.

Smooth

by Rik Myslewski and Ian Sammis

photography by Arnold Tiosejo

A temperamental Mac OS X? Help is on the way. Version 10.1 promises to be faster, smoother, and light on bugs. (Too bad we might get charged $20 for the privilege of upgrading, according to Steve.)

Apple has even made the already elegant PowerMac G4 slicker, eliminating unnecessary design geegaws and sticking with a color scheme infinitely less distracting to design professionals than the original—and *very* bright—blue-and-white tower.

This elegance is uplifting, but it's just icing on the rich devil's food cake that constitutes today's Macs. The power inside is what counts—and there's plenty of it to be had for more-than-reasonable prices.

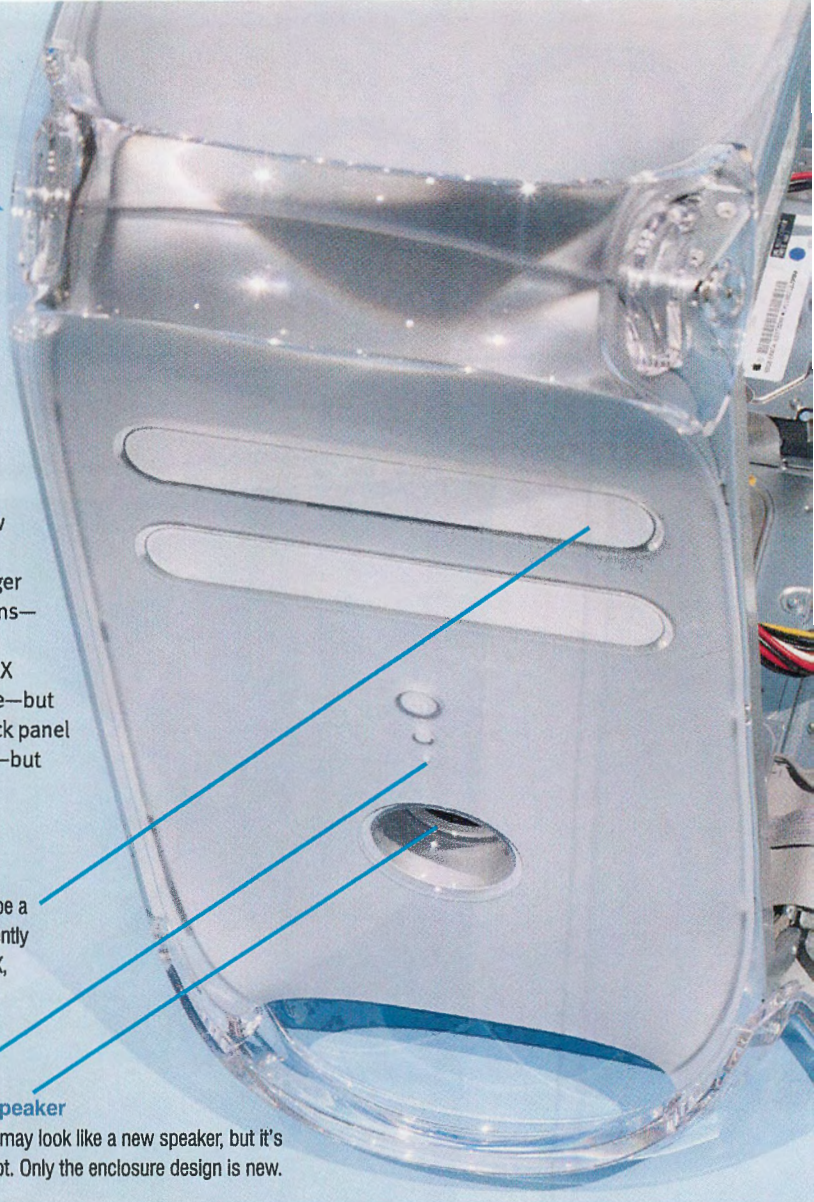
Mac OS X is driving this revolution. It requires more oomph than previous Mac OSs—and it knows how to take advantage of that oomph. Apple's providing the right hardware, starting with a $999 500MHz iMac and topping out with a "I gotta get me one of these!" $3,499 800MHz Dual-processor G4 beastie fine-tuned for Mac OS X's multiprocessor smarts. What's more, Mac OS X is enabling a new class of more-powerful, more-elegant applications, from Apple's own iDVD 2 to a slew of cool stuff from hard-working developers, big and small. These apps will transform what it means to be a Mac addict.

We have seen the future, and it works. And when it doesn't, it won't bring down your whole freakin' Mac anymore.

Guts & Glory

Inside the New 867MHz Power Mac G4

The more things stay the same, the more they change. The new Power Mac G4s, code-named Quicksilver, still use top-of-the-line PowerPC G4 processors—but now these are zippier, with larger performance-enhancing caches. Multiprocessor capability remains—but now there's an OS that takes advantage of it. Four PCI slots remain—but now they're faster than ever. The nVidia GeForce2 MX graphics cards and SuperDrive CD/DVD burners are still available—but now they're bundled together on midrange systems. And the back panel still sports one gigabit-Ethernet and two USB and FireWire ports—but now...uh, well, not everything has improved.



SuperDrive
Apple remains mum about the SuperDrive's parentage, but it's gotta be a Pioneer DVR-103 (also known as the DVR-A03). No other drive currently writes DVD-R discs at 2X, reads DVDs at 4X, writes CD-R discs at 8X, writes CD-RW discs at 4X, and reads CDs at 24X.

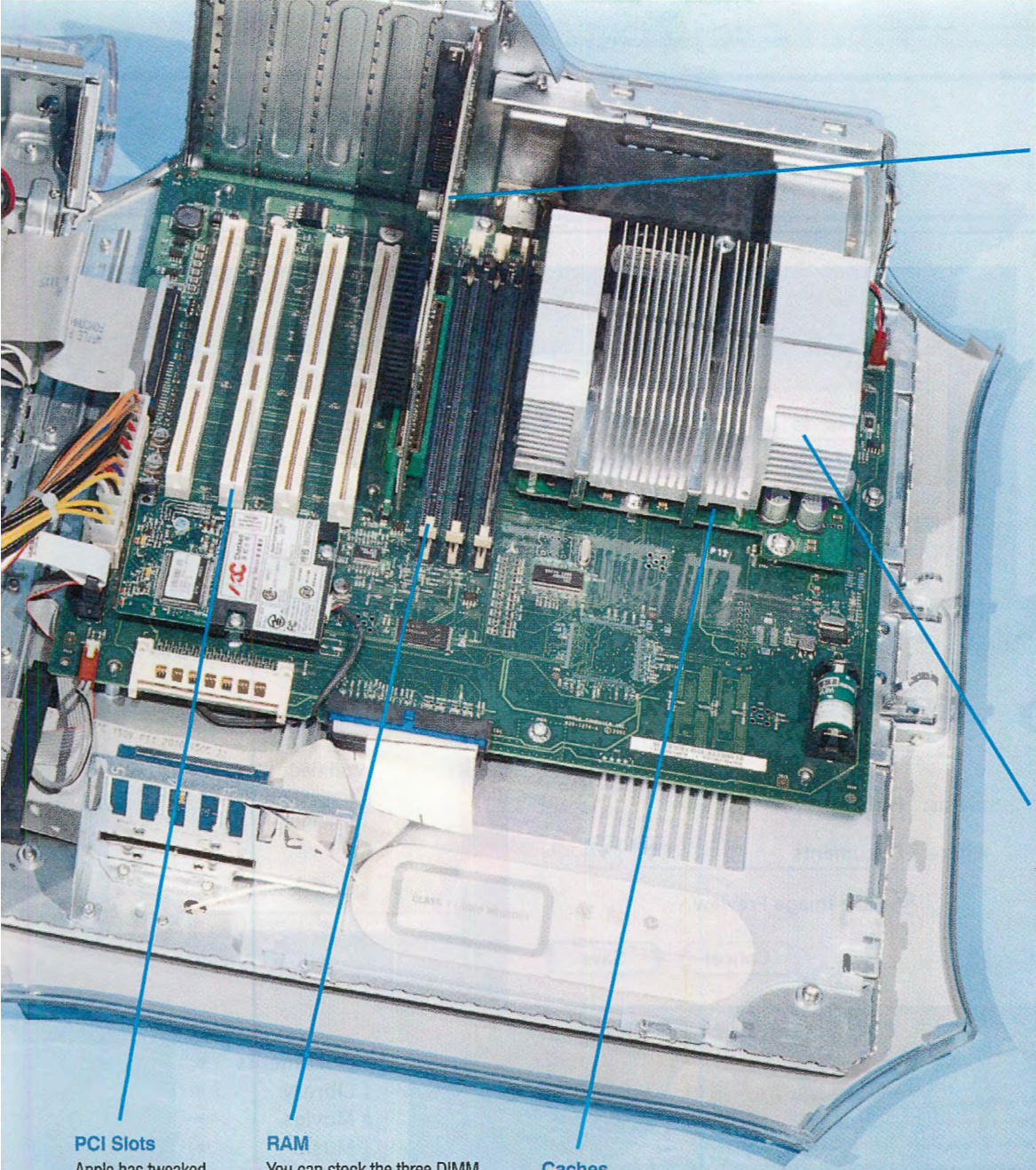
Interrupt Button
If you're a programmer, don't throw away that paper clip—you'll need it to press the redesigned interrupt (aka programmer's) button, which dumps you into your debugger.

Speaker
It may look like a new speaker, but it's not. Only the enclosure design is new.

Rap Sheet

Apple offers each of its new systems in three configurations. In the spirit of pure, unadulterated greed, we also shopped the company's store and assembled our own price-is-no-object dream machines.

		Good	Better	Best	Maxed-Out Visa Card
Power Mac G4 The new faster, cheaper Power Mac G4s include 10/100/1,000Base-T Ethernet, an internal 56K V.90 modem, two USB and two FireWire ports, and speaker and headphone ports—but no audio-in jack.	**Processor**	733MHz G4	867MHz G4	800MHz Dual-processor G4	800MHz Dual-processor G4
	RAM	128MB PC133 SDRAM	128MB PC133 SDRAM	256MB PC133 SDRAM	1.5GB PC133 SDRAM
	L3 Cache	None	2MB	Dual 2MB	Dual 2MB
	Hard Drive	40GB, 5,400 rpm	60GB, 7,200 rpm	80GB, 7,200 rpm	3x72GB Ultra 160 SCSI, 10,000 rpm
	Optical Drive	CD-RW	CD-RW/DVD-R SuperDrive	CD-RW/DVD-R SuperDrive	CD-RW/DVD-R SuperDrive
	Graphics	nVidia GeForce2 MX	nVidia GeForce2 MX	nVidia GeForce2 MX TwinView	nVidia GeForce3
	Extras	None	None	None	Zip 250, Pro Speakers, AirPort Network
	Price	$1,699	$2,499	$3,499	$9,156
iMac Each iMac includes a CD-RW drive, 10/100Base-T Ethernet, an internal 56K V.90 modem, two USB and two FireWire ports, and an ATI Rage 128 Ultra graphics card.	**Processor**	500MHz G3	600MHz G3	700MHz G3	700MHz G3
	RAM	128MB PC100 SDRAM	256MB PC100 SDRAM	256MB PC100 SDRAM	512MB PC100 SDRAM
	Hard Drive	20GB, 5,400 rpm	40GB, 5,400 rpm	60GB, 5,400 rpm	60GB, 5,400 rpm
	Colors	Indigo, Snow	Graphite, Snow	Graphite, Snow	Graphite, Snow
	Extras	None	None	None	iSub, AirPort Network
	Price	$999	$1,299	$1,499	$2,156



nVidia GeForce2 MX
Chock-full of graphics goodness, this zesty display card speeds 2D and 3D images and improves the look of DVD playback. And since it offloads graphics processing from the CPU, it also makes your overall Mac experience snappier. 800MHz Dual-processor G4s include TwinView capability, which doubles graphics RAM and offers one VGA port and one ADC connector for dual-monitor support (just make sure you have one of each type of monitor). If you want top gaming performance, Apple will build you a G4 with nVidia's GeForce3 card—for a few dollars more, natch.

Processor Heat Sink
Apple won't confirm or deny it, but we're willing to bet Steve Jobs's life that the PowerPC processor nestled beneath this massive heat sink is Motorola's top-of-the line MPC7450 G4e. After all, it's the only PowerPC with the 256K on-chip cache Apple touts in each of its new pro systems. At a hefty 14 watts, the MPC7450 G4e requires a beefier power supply than its predecessors and an improved cooling scheme to avoid meltdown.

PCI Slots
Apple has tweaked four full-length, 64-bit, 33MHz PCI slots to achieve faster throughput.

RAM
You can stock the three DIMM slots with up to 1.5GB of PC133 SDRAM, which OS X knows how to use wisely. RAM's cheap. Buy tons.

Caches
All three configurations include on-chip L1 and L2 caches of 64K and 256K, respectively. The 867MHz and 800MHz Dual-processor versions also add 2MB of high-speed L3 backside cache for each processor. The result? Whoa, these puppies are fast.

Putting the Hurt to Hertz

The next time your Wintel-loving friends boast that their PCs blaze along at 1.7GHz, don't succumb to clock envy. Remind them instead that a CPU's megahertz or gigahertz rating—the speed at which its internal clock moves chunks of data around its silicon innards—is as much a matter of marketing as of microprocessor design. They may think you're peeling sour grapes, but it's true.

Broadly speaking, chip designers have two choices: They can either build a chip that accomplishes a lot of complex, time-consuming tasks in a few steps, or they can divide the same amount of work into many smaller steps. The G4 takes the first course; the Pentium 4 takes the second. The Pentium 4 can perform each step—or clock cycle—more quickly because it does less in each step. The kicker is that it actually *requires* a faster clock speed than a G4 to perform the same amount of work.

We're willing to bet that Intel's decision to go the small-step, fast-step route was influenced in no small part by a marketing department that wanted to trumpet "gazillions of gigahertz!" to an unsuspecting public that thinks a faster clock automatically means faster performance. Don't get us wrong—the Pentium 4 is a decent chip, but that's not just because of its clock speed. For a more in-depth (aka geekier) explanation of the megahertz gap, visit http://arstechnica.com/cpu/01q2/p4andg4e/p4andg4e-1.html.

SCREENSHOT COURTESY OF APPLE COMPUTER

OS X Grows Up

With Mac OS 10.1, Apple Gives Us a *Real* Operating System

If the redundantly named Mac OS X 10.1, which Apple will release "sometime in September," lives up to demonstrations at Macworld Expo in July, it will be the first version of Mac OS X that doesn't leave users slapping their foreheads in bewilderment at its sometimes strange, often poky behavior. Here's what's coming:

1. Speed

First and foremost, Mac OS 10.1 is a zippier system, thank god. Apple's sped up everything from how fast menus display to how quickly applications launch. Window resizing is snappier, too.

2. Hardware Support

OS 10.1 is exactly what hardware vendors have been waiting for. The new system provides low-level support for a wide range of devices, including pressure-sensitive tablets, tape drives, and SCSI, IDE, and RAID controllers.

3 Movable Dock

You can now place the Dock on the left or right side of the screen instead of at the bottom, if you choose. (You can—just trust us.)

4 Scale Effect

While the Genie window-minimizing effect—which sucks a window into the Dock like a genie into a bottle—is very cool, it's also expensive in terms of system resources, particularly for those of us without the G4's Velocity Engine. In OS 10.1, you'll find alongside Genie the much simpler Scale effect, which simply shrinks the window as it approaches the Dock.

5 Data CD Burning

While you've had the option to burn music CDs in Mac OS 10.0 via iTunes for some time, Mac OS 10.1 gives you the ability to burn data CDs directly from the Finder.

6. Networking Protocols

Unlike Mac OS 10.0, which had problems connecting to AppleTalk networks, Mac OS 10.1 supports just about every networking protocol we've heard about in the last five years. Besides AppleTalk (which you can now browse and connect to freely), OS 10.1 doesn't even blink when confronted with SMB (aka Windows networks), WebDAV, or NFS file systems.

7 Cleverer iDisk

The iDisk (which, we admit, we unfairly tossed out along with the iReview and iCard bathwater when we first heard about it) has gotten smarter—it now works with WebDAV so you can stay connected even if you're behind a firewall.

8 Resizable Columns

In column view, you can now resize individual columns at will—you don't have to stretch your windows to Timbuktu before seeing all of the columns in the view.

9. Quicker OpenGL

Granted, this could probably go into the Speed category, but it's significant enough for gamers to warrant a separate mention: OS 10.1 should be much speedier when it comes to OpenGL-based 3D.

10. Souped-Up AppleScript

Under OS 10.1, AppleScript should lose that squeaky, not-quite-ready-for-prime-time feel it had under the first versions of Mac OS X. Along with what Apple somewhat mysteriously terms "substantial improvements" (we're hoping that's code for "we finally finished it"), Apple has added the ability to make SOAP and XML-RPC calls via AppleScript (if you're into Web-based applications, you're now salivating).

11 Menu-Bar Controls

Apple is trying to reduce Dock clutter in OS 10.1 by moving several accessories into the right side of the menu bar. Once you install OS 10.1, you will find sound, AirPort, modem status, and a few other control-strip alumni next to the clock. If that seems a bit cluttered, keep in mind that you can save space by shrinking the clock to a tiny analog model.

12. DVD Playback

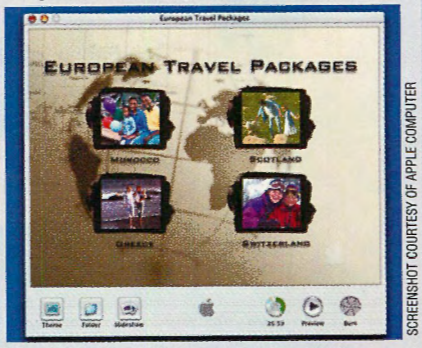
Originally promised a few months ago, DVD playback finally makes it into Apple's good graces. Better late than never.

iDVD, Take Two

The successor to Apple's supersimple DVD-creation tool is the cleverly named iDVD 2. Available in September as a $19.95 upgrade for iDVD owners, iDVD 2 primarily offers a facelift that will give your DVDs a slightly less templated look.

The feature that made Steve Jobs giddy in his Macworld Expo keynote is the ability to add full-motion videos to buttons or backgrounds (a very cool feature, we'll grant). Other enhancements include new themes such as parchment, claim check (as in a travel theme), and—who could have guessed—brushed metal. iDVD 2 also offers animated backgrounds with that special (some might say cheesy) Apple look and feel. A welcome addition is the ability to move buttons wherever you want as opposed to being locked in to preset button configurations. Another change is a capacity increase from 60 to 90 minutes.

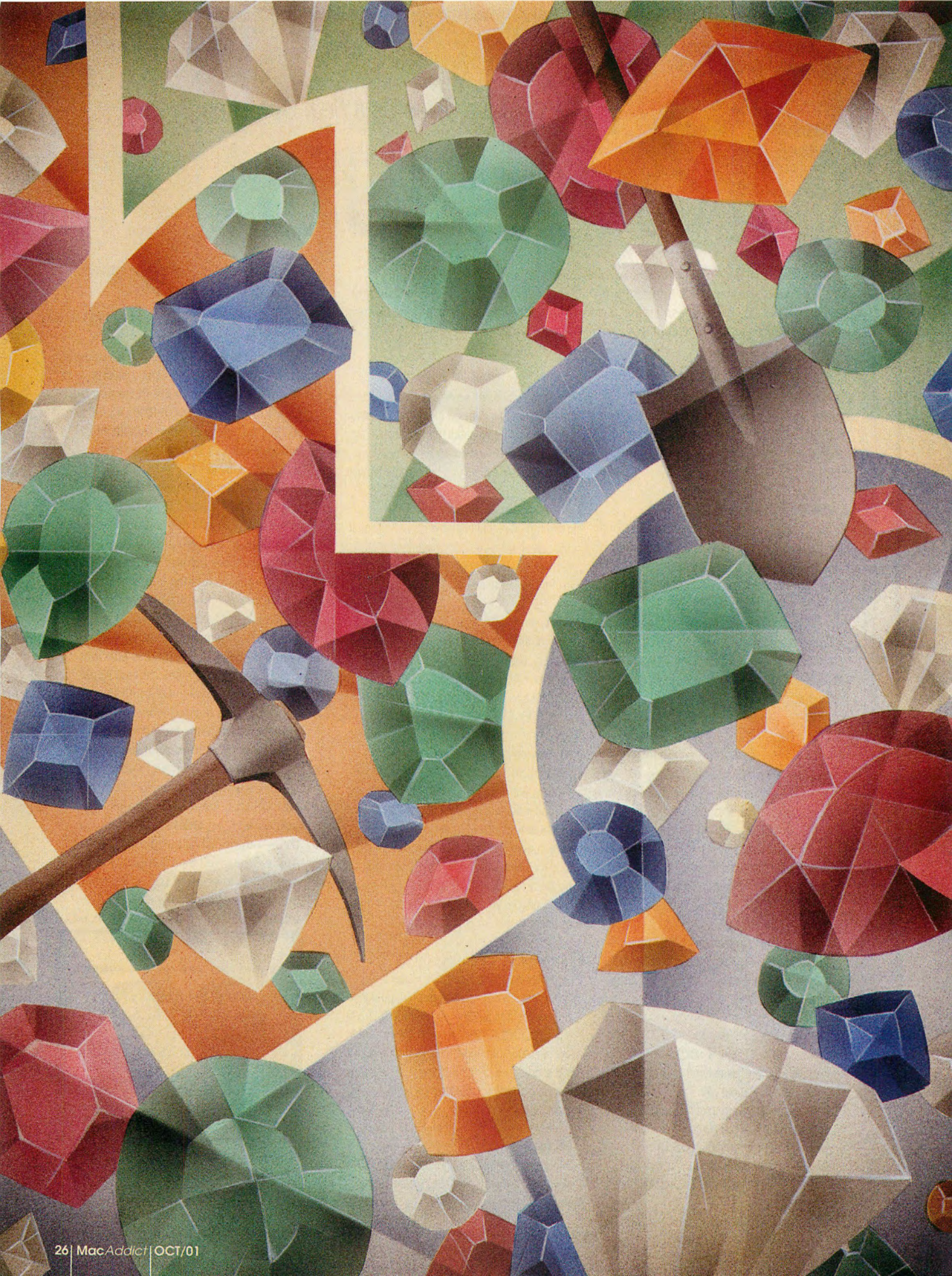
One last thing: If you're not running Mac OS 10.1, leave your dreams of homemade, brushed-metal–themed DVDs behind. iDVD 2 requires the latest Apple OS as well as a SuperDrive-equipped Power Mac G4. Anything less, and you'll have to make do with the original iDVD or—gasp—Video CDs.—*CL*



SCREENSHOT COURTESY OF APPLE COMPUTER

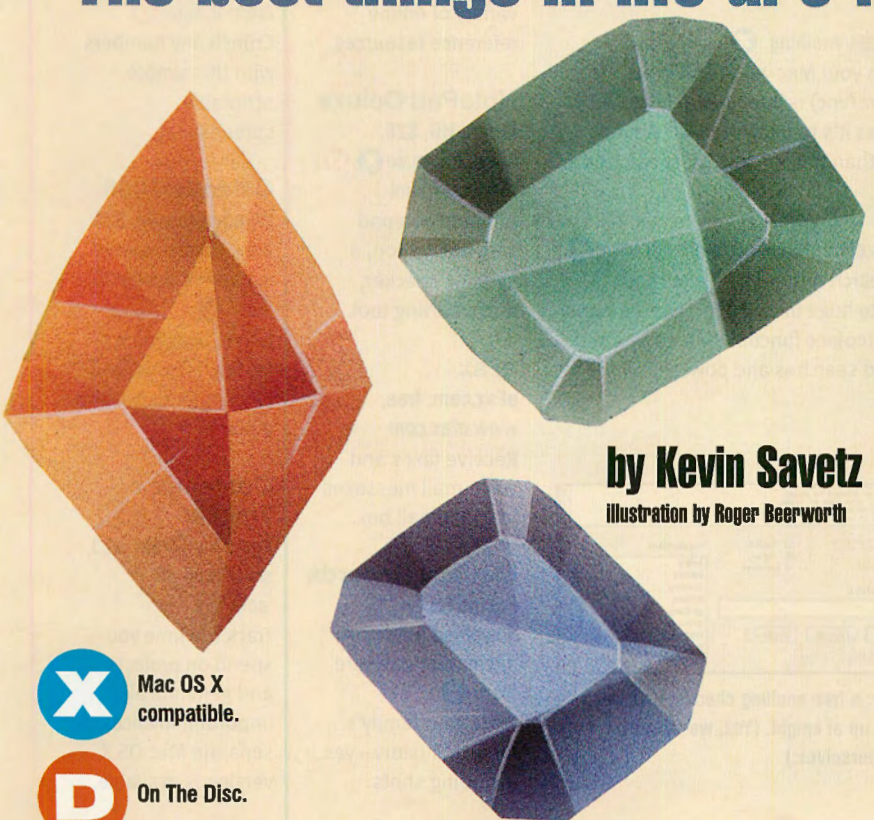
Imagine that the background and the pictures in the menus are moving. OK, now you've got the gist of what iDVD 2 is all about.

Rik Myslewski and Ian Sammis can't wait to sink their teeth into the new 800MHz Dual-processor G4.



150 Shareware Gems

The best things in life are free—or close to it.



by Kevin Savetz

illustration by Roger Beerworth

Mac OS X compatible.

On The Disc.

You don't have to spend big bucks for great software. Hundreds of dedicated Mac developers have lovingly crafted a veritable treasure trove of shareware and freeware gems—some as finely faceted and perfectly polished as any commercial app. The difference? Shareware and freeware come cheap—and you get that warm fuzzy feeling knowing that you're helping someone pay their rent rather than boosting the value of some megacorporation's stock.

We rounded up 150 of the top shareware and freeware applications in the Mac universe. If an app cost more than $100 or came in a box, we excluded it. (Hey, we had to draw the line somewhere.) We then grouped our favorites into a dozen categories and divided each category into two parts: "Must-Have" (apps that belong on every hard drive), and "Worth a Try" (other great software you should at least take for a spin).

One last thing: Freeware, as its name implies, doesn't cost a dime, but shareware is another story. These apps represent the blood, sweat, and tears of unselfish, passionate Mac fanatics—if you use their software, pay the fee. Otherwise, may the ghost of the Sad Mac haunt your dreams.

Productivity

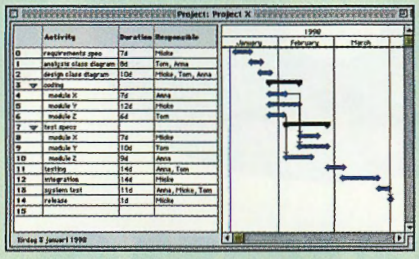
You don't have to rely on Microsoft Office to get your work done.

Must-Have

Free Nisus Writer Nisus Software, free, www.nisus.com/products/nisuswriter/free
Free Nisus Writer—no, that's not a leftist bumper sticker, it's the name of the freebie little brother of the commercial Nisus Writer 6, a full-featured word processor that includes powerful macros, tables, unlimited undos, and even basic desktop-publishing tools. If you only need the basics, download Free Nisus Compact, a 1.1MB streamlined version of the product.

StickyBrain Chronos, $59.99 or $64.95 (depending on different bundles and options), www.chronosnet.com
StickyBrain puts your pad of Post-Its to shame and thoroughly humiliates the Mac OS's Stickies. These desktop notes can include text, URLs, graphics, sounds, or any other type of information. Features include to-do lists, contacts, alarms, encryption, and a password-management feature.

ProjectPlanner Midius, $35, www.arctaedius.com/ProjectPlanner
ProjectPlanner creates schedules for complex projects. It builds easy-to-read Gantt charts (timelines that can span days, months, or years) to help keep your project on track. If you need to manage a group of folks who are contributing to the same project, just save your schedule in HTML and post it to a Web site.



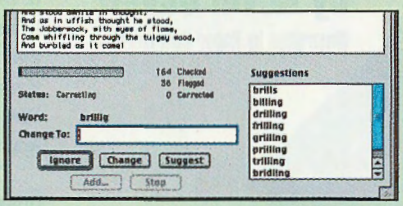
Miss deadlines in style with ProjectPlanner.

Adobe Acrobat Reader Adobe Systems, free, www.adobe.com/products/acrobat/readstep.html
If there's one piece of software that's as essential to your workday as a browser, it's Adobe Acrobat Reader. PDF files are nearly as ubiquitous as email, and Acrobat Reader is the de facto standard for viewing them. If you're going to print large PDF files in Mac OS 9.x, however, make sure you give Acrobat Reader enough memory to work with.

VNCThing Purple Shark Software, free, www.webthing.net/vncthing
Control another computer—Mac, Windows, or Unix—from your Mac with this Virtual Network Computing client. VNC (www.uk.research.att.com/vnc) is a remote display system that allows you to access any computer (as long as it's running the VNC server) over a LAN or the Internet. Free VNCThing is more stable than the official VNC client, and it works with Mac OS X.

BBEdit Lite Bare Bones Software, free, www.barebones.com/products/bbedit_lite.html
BBEdit Lite is a powerful text editor that boasts potent search-and-replace tools and multiple clipboards and also has the ability to manipulate huge files. BBEdit Lite's manual devotes 35 pages to the program's powerful search-and-replace functions—read this stuff, it's worth your time—which include both simple wild-card searches and powerful Unix-style regular-expression searches.

Excalibur Rick Zaccone and Robert Gottshall, free, www.eg.bucknell.edu/~excalibr/excalibur.html
A freeware spelling checker, Excalibur can check text files, the clipboard's contents, and documents formatted with the Latex typesetting language. It also works with BBEdit, MT-Newswatcher, and many other programs. You get a 160,000-word English dictionary, and you can download many technical and foreign-language dictionaries free from the Web site.



Excalibur: a free spelling checker that won't keep you up at knight. (Yes, we already slapped ourselves.)

Worth a Try

Budget
Ron Hooper, free, http://budgetsupport.home.att.net
Print checks, balance your checkbook, and monitor your budget.

PowerTicker
Galleon Software, $29.95, www.galleon.com/powerticker
Display the latest stock market info on a scrolling ticker.

InfoManager
MacEase, $49.95, download from www.kagi.com/macease
Clip info from any application and arrange it in tidy notes.

MacDICT
Navdeep Bains, free, www.bainsware.com/macdict
Look up words from a variety of online reference resources.

NotePad Deluxe
Ibrium HB, $25, www.ibrium.se/npdmain.html
A handy notepad with encryption, a spelling checker, and a sorting tool.

eFax
eFax.com, free, www.efax.com
Receive faxes and voice-mail messages in your email box.

Medical Records
Pacific Cargo, $5, download from www.filemakershareware.com
Track your family's medical history—yes, including shots.

icWord
Panergy, $19.95, www.icword.com
View and print Microsoft Word files—without Word.

PeopleBook
Amar Sagoo, $20, http://homepage.mac.com/asagoo/peoplebook
This cool address book can print address labels and dial your phone.

WhizGraph
DeepGreen Solutions, $45, www.deepgreen.de
This data-analysis and graphing software is powerful enough for science and easy enough for business.

Sum-It
Hekkelman Programmatuur, $20, www.hekkelman.com/sum-it.html
Crunch any numbers with this simple, scriptable spreadsheet.

Calendar2000
WünderMoösen, $25, www.wundermoosen.com/wmCalendar2000.htm
Julian, Gregorian, Jewish, Islamic, and lunar calendars—plus a planner.

Customer Tracker
Kevin VanStrien, $23, www.solarsite.com/kvs
Track the time you spend on projects and generate all-important invoices. A separate Mac OS X version is available.

Graphics

Don't want to dig deep into your wallet for Adobe Photoshop or Macromedia FreeHand? Read on.

Must-Have

GraphicConverter Lemke Software, $35, www.graphicconverter.net

An amazingly versatile graphics tool, GraphicConverter can open and edit 145 types of graphics files, including the most obscure formats. Its batch-conversion tools let you convert and tweak a hard drive full of images in one fell swoop—for example, crop and sharpen 1,000 images, then reduce each to thumbnail size and save them all in PNG format.

Print2PDF James W. Walker, $20, www.jwwalker.com/pages/pdf.html

While Print2PDF doesn't offer every function of Adobe Acrobat (you can't embed fonts or password-protect your documents), it does allow you to create PDF files without investing hundreds of dollars. Take a moment to explore Print2PDF's preferences screen, which offers many options you might otherwise miss, such as the ability to add watermarks to PDF files.

Plug-ins from Flaming Pear Flaming Pear Software, $15 to $30 per plug-in, $40 to $49 for bundles, www.flamingpear.com

We can't pick just one—each Photoshop plug-in from Flaming Pear is cooler than the last. Design a planet with LunarCell or create splashy water effects with Flood. The Ornament plug-in offers an unusual (and cheap!) way to create panoramic pictures. Coolness factor? Off the charts.

You can do terraforming on a budget with Flaming Pear's LunarCell.

CorelDraw 8 Limited Edition Corel, free, www.corel.com/draw8mac_le/product_info.htm

A light version of CorelDraw 8, this package includes both CorelDraw LE (for vector illustration and page layout) and Corel Photo-Paint LE (for image editing and painting). This app is more than powerful enough for those of us who don't get paid to work with graphics.

AppliMac Slide Show OneApp Software, $25, www.applimac.com/ss

This slide-show and presentation tool organizes multimedia files, QuickTime movies, sounds, and images, and supports a wide variety of image and audio formats, including QuickTime and MP3. You can even save presentations as stand-alone applications—for example, you can distribute that business presentation on a self-running CD-ROM.

Honor J-Lo with AppliMac Slide Show. Why? Um, we're not sure.

Worth a Try

Snapz Pro Ambrosia Software, $40, www.ambrosiasw.com/utilities/snapzpro

If you need to take screenshots, Snapz Pro is the bomb.

PhotoGIF BoxTop Software, $69.95, www.boxtopsoft.com/photogif.html

Create tiny, high-quality GIF files with this Photoshop plug-in.

ProJPEG BoxTop Software, $49.95, www.boxtopsoft.com/projpeg.html

What PhotoGIF does for GIFs, ProJPEG does for JPEGs.

JPEGView Aaron Giles, free, download from www.mac.org/graphics/jpegview

Serves up images in JPEG, PICT, GIF, and other common file formats.

Painting Sarwat Khan, $20, http://sarwat.net/painting

A simple, powerful image editor with tablet support and easy color management.

Cameraid Juri Munkki, $15, www.cameraid.com

Transfer photos from your camera, then view, rotate, and name them.

Icon Machine Uncommonplace, $25, http://uncommonplace.com/shareware/iconmachine.html

Create 16-by-12-pixel miniatures or huge 128-pixel Mac OS X icons.

PixelToy LairWare Software, $15, www.lairware.com/pixeltoy

Watch hypnotic patterns pulse to the beat of your favorite CD.

PixelToy adds a new level to your Grateful Dead CDs (as if you need it).

Rainbow Painter Norbyte, $25, www.rainbowpainter.com

This image editor includes layers, channels, and filter effects.

Warning: Rainbow Painter's colorful scrollbars may cause blindness.

Kids Animation Maker Voget Selbach Enterprises, $18, www.vse-online.com/kids-animation-maker

Easy-to-use graphics program lets kids create simple animations.

ImageViewer PlatoGrande Software, $30, www.imageviewer.com

Use batch-processing tools to rotate, rename, and scale digital images.

ImageBuddy KepMad Systems, $15, www.kepmad.com

Rotate, crop, mask, and lay out your photos for printing.

Stop wasting expensive glossy paper—use ImageBuddy first.

Mike's Edge Mike Sedore, $10, $79 for the Pro version, www.mikesedore.com/mikeedge.html

Create image masks for the Web or in PostScript.

Ptah Thoth Software, $15, www.thothsw.com/utilities/index.html

Text, images, movies, and sound files—this program opens and plays them all.

HexaSuper2 Shusaku, $54, www.shusaku.co.jp/hexa

Make 3D objects from 2D illustrations and photographs.

Utilities

Your Mac's a powerful beast—bend it to your will with one of these gems.

Must-Have

Extension Overload

Teng Chou Ming and Peter Hardman, $20, www.extensionoverload.com

Not only can you manage extensions, control panels, Control Strip modules, and contextual menus with Extension Overload, but you also get detailed descriptions on each doodad's purpose. Font-management tools also allow you to install, remove, and preview fonts. Too bad Mac OS X doesn't have an equivalent Library Overload app—yet.

A Better Finder

Frank Reiff Shareware, $9.95 to $14.95 each or $44.95 for all four, www.publicspace.net/ABetterFinderSeries

The well-named suite of tools, A Better Finder, improves how you work with files in the Mac OS's Finder. Select adds criteria-based file searching that's more powerful than Sherlock's. For example, you can find files using wild cards or Unix-style regular expressions, such as *find all files with 10-character names that include two Qs in a row.* Rename makes it easy to—guess what?—rename many files at once, and other tools let you display and change file attributes, creator apps, and types.

Version Master

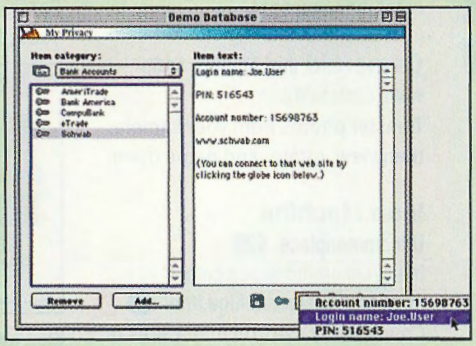
Symmetry Software, free, www.versionmaster.com

Version Master lets you know when upgrades are available for all of your software. Unlike the Software Updates control panel that came with your Mac, which is limited to Apple-approved applications, Version Master will report on the vast majority of Mac software. A $19.95 subscription adds version notes, hot links to software updaters, and other nifty features.

VSE My Privacy

Voget Selbach Enterprises, $19.95, www.vse-online.com/my-privacy

My Privacy is an encrypted information manager for passwords, bank-account information, credit-card numbers, software serial numbers, and other personal data. Copy online passwords to the clipboard with a click, and you'll never have to type (or remember) a password again.



Never lose track of a password again.

DiskTracker

Portents, $30, www.disktracker.com

DiskTracker catalogs your CD-ROMs, Zips, and floppies, and can find files anywhere, even on a disk you no longer have mounted on your Mac. Not only does it help with your hard-drive housekeeping, but it also prints custom disk labels. You've just run out of excuses for lost documents.

TechTool Lite

Micromat, free, www.micromat.com

TechTool Lite is a necessity for basic troubleshooting. This essentials-only version of Micromat's beefier TechTool Pro can zap your Mac's PRAM, delete and rebuild desktop files, and analyze your file system for hidden damage.

StuffIt Expander

Aladdin Systems, free, www.aladdinsys.com/expander

There are must-have apps, and then there are you'd-be-crazy-not-to-have-them apps—StuffIt Expander falls into the latter category. This essential utility will open up all those SIT, ZIP, GZ, and other compressed files you downloaded from the Internet.

Worth a Try

Desktop Resetter

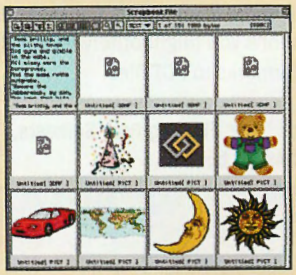
No-U-Turn Software, $10, www.goddfaddasoft.com/resetter

Restore the arrangement of your desktop items when resolution switching moves them.

Scrap-It Pro

John V. Holder, $20, www.northcoast.com/~jvholder

This scrapbook's view and search features put Apple's Scrapbook to shame.



See all your bits and pieces at once in Scrap-It Pro's gallery view.

Synchronize

Qdea, $29.95, www.qdea.com

Automatically back up your data to removable media or iDisks, or sync files with another Mac.

MyBattery

Jeremy Kezer, $10, www.kezer.net/mybattery.html

This utility monitors your laptop's battery much more accurately than Apple's built-in software.

Mt. Everything

Horst Prolow, free, www.overnet.de/hhp/mte

Mount SCSI volumes, inspect disk partitions, and enable drives without rebooting.

iDiskMounter

Christian Vick, suggested fee of $5, www.cooc.de/softies/idiskmounter

Mount iDisk without typing a password, and suppress that annoying time-out message.

Doublet Scan

Hyperbolic Software, $25, www.hyperbolicsoftware.com

Delete space-wasting duplicate files—how many copies of SimpleText do you need?

TransType

FontLab, $49.95, www.fontlab.com/html/transtype.html

Convert TrueType and Type 1 fonts from PC to Macintosh formats—and vice versa.

Joliet Volume Access

Thomas Tempelmann, free (as of press time), www.tempel.org/joliet

Enhance your Mac's ability to read CD-ROMs created for Windows and other platforms.

MacZip

Dirk Haase, free, www.sitec.net/maczip

Expand ZIP-format compressed files—or make your own.

Cast Off

MonkeyBread Software, $10, www.monkeybreadsoftware.com

Remove those unused preferences files cluttering your System Folder.

SaveATree

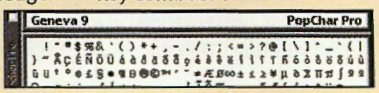
Michael S. Engber, free, download from http://hyperarchive.lcs.mit.edu/HyperArchive/Archive/prn/save-a-tree-154.hqx

Lets you print on one page what would normally occupy two to four—but what you print ends up very, very small.

PopChar Pro

Uni Software Plus, $29, www.unisoft.co.at/products/popchar.html

Choose oddball characters from a pop-up menu rather than typing oddball key combos.



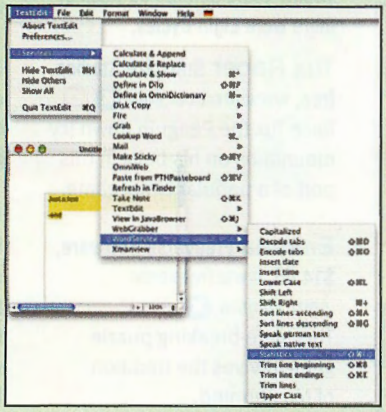
Tildes and umlauts and accents, oh my!

Mac OS X It has potential to be great, but young Mac OS X still needs these training wheels.

Must-Have

OmniDiskSweeper The Omni Group, $15, www.omnigroup.com/products/omnidisksweeper
OmniDiskSweeper builds a list of the largest files on your system—the selfish ones that are piggishly taking up all that precious disk space—and allows you to delete any you no longer need. It also tells you which files the operating system requires so you don't accidentally delete essential resources.

WordService Christian Grunenberg, free, http://home.arcor-online.de/grunenberg
WordService adds features for working with text to all Cocoa-created applications. Its abundant skills include sorting, changing case, statistics, encoding and decoding tabs, shifting text position, and inserting the date or time. It's a time-saver.

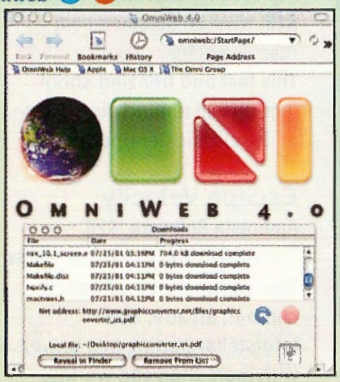


WordService adds text-manipulation functions to any OS X app.

The Moose's Apprentice WünderMoösen, $15, www.wundermoosen.com/wmTMA.htm
Edit, monitor, and restore Unix configuration files with this program's friendly graphical interface—and without a degree in Unix system administration. If the changes don't work properly, The Moose's Apprentice will let you revert to a previous version of your configuration files. The program also monitors the state of config files and will warn you if a cracker surreptitiously tweaks them.

X-Assist Peter Li, free, http://members.ozemail.com.au/~pli/x-assist
You upgraded to Mac OS X, but you miss your favorite features from the classic Mac OS you've known and loved for years. X-Assist feels your pain—and can do something about it. This program adds an application switcher to the menu bar, provides a Control Strip–like plug-in architecture, and lets you add personal hierarchies of items to a Mac OS 9–style Apple menu. Thomas Wolfe was wrong—you *can* go home again.

OmniWeb The Omni Group, $29.95, www.omnigroup.com/products/omniweb
OmniWeb is a beautiful, polished Web browser designed exclusively for Mac OS X. The spiffy interface includes customizable toolbars and drawers for bookmarks and site history. Even the dreaded smoothed-whether-you-like-it-or-not text looks way better than Internet Explorer's.



Appearing exclusively on Mac OS X—it's OmniWeb!

Worth a Try

Calindock Critical Matter, free, www.criticalmatter.com
Add a monthly calendar to your Dock—it's simple, clean, and useful.

AutoCompleter Catchy Software, $15, www.catchysoftware.com/autocompleter
This clever utility speeds your typing by autocompleting words in any Cocoa application.

Unsupported UtilityX Ryan Rempel, free, http://eshop.macsales.com/OSXCenter/framework.cfm?page=UnsupportedUtilityX.html
Old Mac? Won't run X? Maybe you can change that with this sneaky installer.

Space.dock Riley Lynch, free, http://space.sourceforge.net
Create virtual workspaces that expand your screen real estate.

Cheaper than a new monitor.

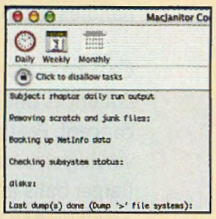
X Sounds free, http://montgomery.cas.muohio.edu/SSAUER
Spice up your OS X auditory experience with this bundle of 675 AIFF-format sounds.

Fire epicware, free, www.epicware.com/fire.html
This instant messaging client works with six chat services, including AOL, Yahoo, and IRC.

Firewalk X Mike Vannorsdel, $12, www.users.qwest.net/~mvannorsdel/firewalkx
Use a graphical interface to configure and maintain OS X's built-in firewall.

ManThor Stefan Lange-Hegermann, free, www.blackmac.de/manthor
Get easy access to Unix's built-in explanatory manual pages.

MacJanitor Brian Hill, free, http://personalpages.tds.net/~brian_hill/macjanitor.html
Do you turn off your system at night? Make OS X do its nightly maintenance tasks, such as deleting old log files, during the day.



Now Mac OS X can do its nighttime dirty work any time.

Alarm Clock Pro Koingo Software, $9.97, www.koingosw.com/products/alarm_clock_pro.shtml
Set up to five alarms, and even wake up to your favorite CD or MP3 tune.

RBrowser Object Warehouse, free, www.rbrowser.com
View and edit files on your Mac and remote Unix systems using one interface.

Sharity Objective Development, $59, www.obdev.at/products/sharity
Connect to Windows, Samba, AppleShare IP, and other popular file servers.

Launcher Brian Hill, $15, http://personalpages.tds.net/~brian_hill/launcher.html
A self-proclaimed shameless rip-off of the Launcher control panel in System 7 and Mac OS 8.

Classic Dockling Impulse Development, free, www.impulsedev.com
Start, stop, and monitor the Classic environment from the Dock.

TinkerTool Marcel Bresink Software-Systeme, free, www.bresink.de/osx/TinkerTool.html
Customize your Mac with TinkerTool by activating hidden options Apple doesn't want you to find, including a desktop trash can and a font-smoothing control.

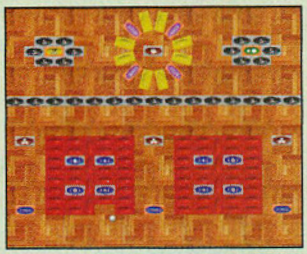
Games

Got time to waste? These gems are guaranteed to reduce your productivity.

Must-Have

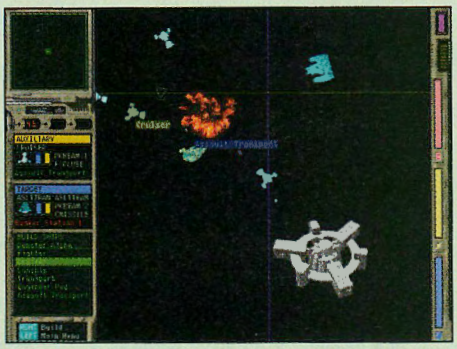
Tranquility TQworld, $24 per year, http://tqworld.com (X) (D)
Come for the fascinating graphics, stay for the engaging puzzles. In Tranquility, you float through colorful 3D space looking for a spinner that will transport you to the next level. The game customizes challenges depending on your playing style. Tranquility requires an Internet connection while you play because the game's online server handles personalized levels and scoring.

Colibricks Michel Colman, $16, http://nav.to/colibricks (X) (D)
Colibricks offers a unique slant on the old ball-and-bricks gaming concept. Features include balls of varying sizes and true-to-life physics (larger balls are heavier). Bricks aren't limited to horizontal orientation—you'll see them arranged in arches, spirals, and plenty of other intriguing patterns.



Colibricks is like Breakout, only more fun.

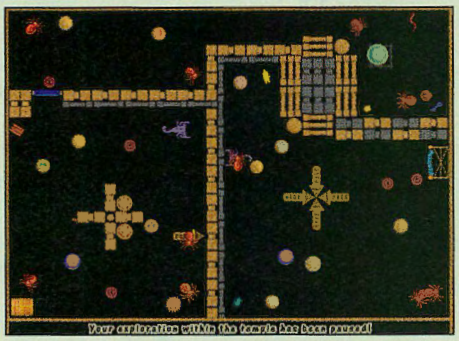
Ares Ambrosia Software, $25, www.ambrosiasw.com/games/ares
Interstellar combat is the game in Ares, a strategic war simulation. Use your ships to control and protect planets against a computer or human opponent. The game's not easy, so start with the tutorial levels to learn controls and basic tactics.



Play war games in deep space.

MacMAME free, www.macmame.org (X)
Play thousands of classic arcade games such as Defender, Mr. Do, and Out Run with this versatile emulator, accurate down to the last detail. The program is free, but you need to download game ROMs to use with it (available at www.mame.dk and www.retrogames.com, among other places). Those ROMs are copyrighted, so don't download any if you plan on running for an elected office.

Temple Tantrum Ground Zero Software, $18, www.templetantrum.com (D)
If there's a bit of Indiana Jones in you, you need Temple Tantrum. Search more than 100 levels for treasure in this arcade-type exploration game. If you manage to make it through those levels, the level editor lets you build your own.



Grab the goodies while avoiding vile beasties.

Worth a Try

GlTron Andreas Umbach, free, www.gltron.org
Zoom around a 3D landscape in this modern interpretation of an eighties classic.

Twenty years before Pod Racing, there were Light Cycles.

Tux Racer Sunspire Studios, free, www.tuxracer.com (X) (D)
Race Tux the Penguin down icy mountains on his belly in this port of a popular Linux game.

Enigma Freeverse Software, $14.95, www.freeverse.com/enigma (X) (D)
This code-breaking puzzle game revives the tradition of Mastermind.

Pac the Man McSebi, free, www.mcsebi.de (D)
A trademark-infringement lawsuit waiting to happen, Pac the Man is a 25-level Pac-Man clone.

Bushfire Strange Flavour, $3, www.strangeflavour.com (X)
Fly your helicopter through the forest and extinguish fires in this 2D scrolling game.

MacSolitaire PCV enr, free, www.pcv-soft.com (X) (D)
Play that classic time-waster, Solitaire, in this popular freeware adaptation.

Apeiron Ambrosia Software, $15, www.ambrosiasw.com/games/apeiron (D)
This fast and frenzied shoot-'em-up will remind old-timers of the classic Centipede.

Escape Velocity Ambrosia Software, $20, www.ambrosiasw.com/games/ev (D)
This game combines space combat, arcade, and interstellar trading in a universe with more than 100 worlds.

TheCowCatchingGame Martin Wengenmayer, $10, http://homepage.mac.com/mwengenm (X) (D)
Use your flying saucer to catch as many cows as you can in this OS X–only game.

Sigma Chess Lite Ole Kjaer Christensen, free, www.sigmachess.com/_download/download.html (D)
How about a nice game of chess? This game offers challenging play and graphics plug-ins.

MacFIBS Paul D. Ferguson, $20 ($10 for those age 65 or older), www.fibs.com/macfibs (D)
Play backgammon with thousands of online opponents via the First Internet Backgammon Server.

Domitrix APO Games, $10, www.kagi.com/apo (D)
Link falling dominos in this addictive Tetris-like puzzle game.

Weird Al's Great Adventure FIDIM Interactive, free public beta, www.fidim.com/fidim/waga.html
Help Weird Al Yankovic find his accordion and avoid the slime creature and the radioactive hamster.

Nanosaur Pangea Software, $15, www.pangeasoft.net/nano
As a dinosaur, you run, shoot, and collect eggs to ensure the future of your species.

Reckless Drivin' Jonas Echterhoff, $12, reckless.x2.nu (X) (D)
Drive through 2D levels and leave as much destruction in your wake as possible.

Get your kicks on Route 66.

Customization

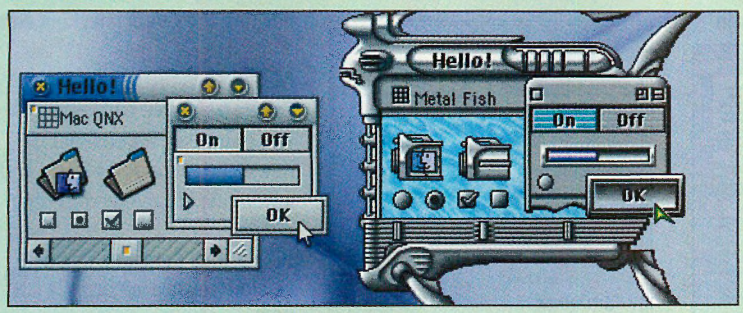
It's your Mac—it should look, sound, and perform just the way you want it to.

Must-Have

Kaleidoscope

Greg Landweber and Arlo Rose, $20, www.kaleidoscope.net D

Choose from a mammoth variety of schemes—plug-in modules that can change your Mac's interface with chameleonlike ease. You can enjoy nonrectangular windows, cool transparency effects, and other whiz-bang interface tricks.



Give your Mac a makeover with Kaleidoscope.

USB Overdrive

Alessandro Levi Montalcini, $20, www.usboverdrive.com D

Customize the behavior of the buttons, wheels, and switches on your USB mice, trackballs, joysticks, and gamepads with USB Overdrive. Overdrive allows you to use any input device with any game, assign different behaviors to each button, and enable document scrolling if your device has a scroll wheel.

DragThing

James Thomson, $25, www.dragthing.com X D

DragThing adds a flexible dock to your desktop, handy for launching applications, opening folders, and jumping to Web pages. Each colorful dock can hold any number of tabbed pages. For easy access to a program, document, or folder, just drag it onto an empty space in the dock.

DragThing adds a handy dock to your Mac OS X or pre–OS X desktop.

Worth a Try

Sound Shuffler

No U-Turn Software, free, www.goddfaddasoft.com/shuffler D

Randomize your Mac's alert beep to add spice to the most frustrating error messages.

FinderPop

Turlough O'Connor, $8, www.finderpop.com D

Make the contextual menu a program launcher, window-switching menu, and application switcher.

AliasMenu

Benoit Widemann, $25, www.widemann.net/aliasmenu-us.html D

Add cute little icons to the menu bar for quick access to all of your apps.

Default Folder

St. Clair Software, $25, www.stclairsoft.com/DefaultFolder D

Set default save folders for each app and switch quickly between favorite doc folders.

Sleeper

St. Clair Software, $25, www.stclairsoft.com/Sleeper D

Fine-tune disk spin-down, monitor, and system-sleep settings—even on older Macs.

Icon Tools

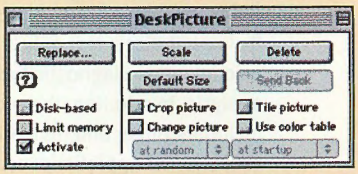
Riccisoft, $15, www.riccisoft.com/icontools D

Create cool, customized desktop icons with Icon Tools—even if you don't have any artistic talent.

DeskPicture

Peirce Software, $20, www.peircesw.com/DeskPicture.html D

Change your desktop image randomly or at set intervals.



It's time to get serious about your desktop pictures.

Math and Science

Mac users can also be scholars. Some of them, anyway.

Must-Have

Earth Browser

Lunar Software, $19.95, www.earthbrowser.com X D

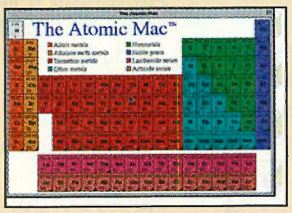
A stunning interactive globe, Earth Browser lets you view real-time cloud conditions and weather patterns, track earthquakes, and monitor volcanoes. See the locations and magnitudes of the latest significant earthquakes and volcanic activity worldwide. Click a volcano to see pictures and information about it. As a bonus, the Webcam tool makes it easy to see live images of your favorite spots.

Worth a Try

The Atomic Mac

Black Cat Systems, $25, www.blackcatsystems.com/software/atomic.html X D

This periodic-table app serves up a graphical table, a molecular-weight calculator, and more.



If you don't know your noble gases from your alkali metals, you need The Atomic Mac.

OzTeX

Andrew Trevorrow, $30, www.trevorrow.com/oztex

This Mac implementation of the TeX typesetting system excels at math typesetting.

iUnit

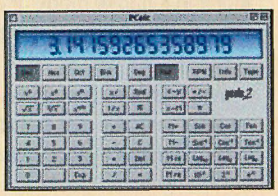
Black Cat Systems, $20, www.blackcatsystems.com/software/iunit.html D

Convert 550 different units of measurement. How many millimeters in a parsec? 30,856,800,000,000,000,000. But you knew that already, didn't you?

PCalc 2.1

TLA Systems, $10, www.pcalc.com X D

Upgrade your calculator to PCalc, a beautiful and oh-so-functional calc tool.



PCalc is prettier and has more functionality than Apple's ancient Calculator, don't ya think?

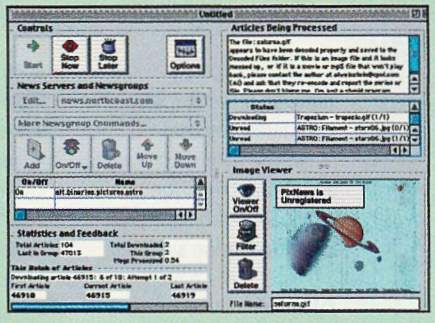
Internet

There's more to the Internet than just the Web—these gems will help you master all its powers.

Must-Have

PixMachine Techsono Engineering, $40, www.techsono.com/pixmachinemac

Grab images, movies, and MP3s from Usenet automatically. Just plug in your favorite newsgroups (binary groups work best), and PixMachine will download all the graphics and movies it can find, piece them together, and create a nice index. Let it run while you sleep and you'll wake up to a bounty of multimedia goodness in the morning. The product includes PixPlayer for viewing and managing pictures and movies.



Aha! PixMachine finds rare nonpornographic pictures on Usenet.

iVisit Eyematic Interface, free, www.ivisit.com/download.htm

It's the videophone of the future—on your Mac today. iVisit allows you to chat with old friends or meet new people, chat room style. If you have a video camera, you can let others see your pretty face—if not, paste in a still picture. A fast Internet connection helps but isn't mandatory.

Interarchy Interarchy User Group, $35, www.interarchy.com

It slices, it dices! Not only is Interarchy a faboo FTP client, but it also includes diagnostic tools like ping, traceroute, and IP packet analysis. In addition, the program provides server functions including finger and network time protocol, and it allows remote execution of AppleScript commands via telnet.

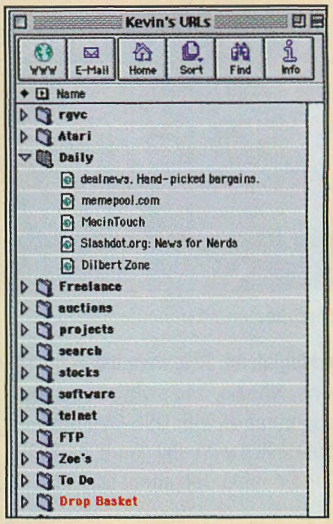
Outlook Express Microsoft, free, www.microsoft.com/mac

We hear your cries of protest. Love Microsoft or hate it, you've gotta love the guys and gals at Microsoft's Macintosh Business Unit—they create some great software. Outlook Express is a fantastic, fast, full-featured email client—and the price is right.

Worth a Try

URL Manager Pro Alco Blom, $25, www.url-manager.com

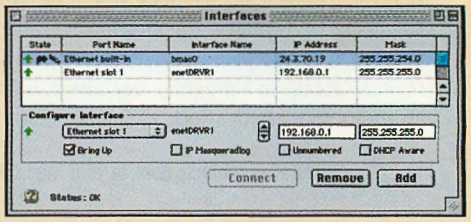
Arrange URLs, FTP sites, and email addresses, then access them from all of your Internet clients.



URL Manager Pro lets you organize bookmarks and share them between browsers.

IPNetRouter Sustainable Softworks, $89, www.sustworks.com

Share your Mac's Internet connection with other computers on your LAN—even those evil PCs.



If your Mac has two Ethernet ports, IPNetRouter can secure your Mac and all the other computers on your LAN.

NiftyTelnet SSH Jonas Walldén, free, www.lysator.liu.se/~jonasw/freeware/niftyssh

This telnet app supports secure shell (SSH) sessions, perfect for hacking the CIA or checking email.

MT-NewsWatcher Simon Fraser, free, www.smfr.org/mtnw

The quintessential Usenet newsreader supports filters and automatic binary-file decoding.

iCab iCab Company, free beta version (release version will cost $29), www.icab.de

This sleek, bloat-free browser is a great substitute for corpulent corporate ones.

ICQ ICQ, free, www.icq.com

Enjoy real-time chat, exchange files, and send SMS (Short Messages System) messages to cell-phone users.

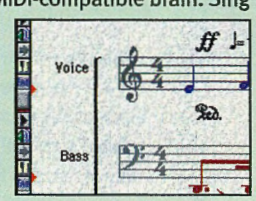
Audio

So you're not P. Diddy—you and your Mac can still jam, mix, dub, and sample.

Must-Have

Melody Assistant Myriad Software, $15, www.myriad-online.com

We know you're eager to put the finishing touches on that epic rock opera. You need Melody Assistant, which provides a score editor and printer, a digital sound editor, and other gadgets for your MIDI-compatible brain. Sing along in Karaoke mode or let your Mac do the singing.



Transcribe your favorite tune or write your own with Melody Assistant's score editor.

Worth a Try

Amadeus II Martin Hairer, $25, www.unige.ch/math/folks/hairer/martin/Amad2.html

Create, manipulate, and analyze sounds. Includes support for MP3 and other audio formats.

AudioCorder Black Cat Systems, $20, www.blackcatsystems.com/software/audiocorder.html

This voice-activated recorder can schedule recording sessions, like a VCR, and record phone calls.

Authentic Sound Recorder InnerLoop Productions, $29.95, www.innerloop-prod.com/AS_Recorder.html

Record four direct-to-digital tracks, then mix them and save it all in AIFF format.

Mboom MeepMeep, $99, www.mboom.com

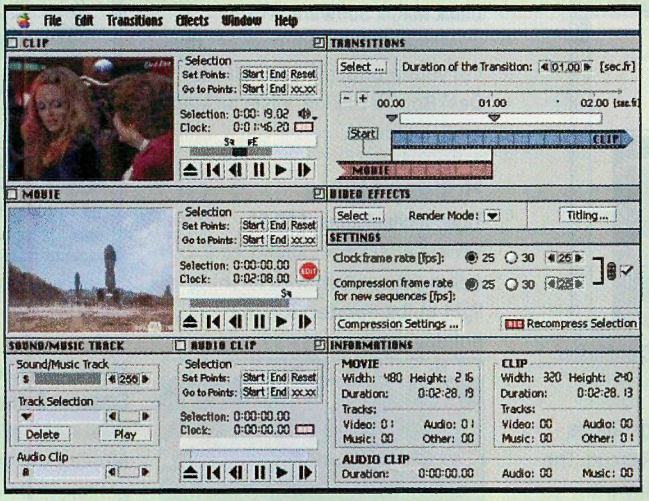
This sequencer supports both loop-style and timeline-based song arranging.

Video
Haven't bought a digital-video camera yet? Look at what you're missing.

Must-Have

QuickTime Pro Apple, $29.99, www.apple.com/quicktime/download
Apple's QuickTime Pro is probably the most essential application in any video maker's arsenal. With it, you can edit movies, add special effects and sound effects, create Internet-ready audio and video, and even build 360-degree virtual-reality scenes. For more info on what you can do with QuickTime, see "20 QuickTime Tricks," Sep/01, p30.

QuickEditor Mathias Tschopp, $35, www.wild.ch/quickeditor
QuickEditor is a powerful QuickTime movie editor that includes titling, transitions, video effects, and sequence-grabbing tools. Digitize your movie (any video source will do, including a USB video camera), then put your masterpiece together. Choose from more than 100 filters and scene-transition effects, then add titles and a soundtrack.



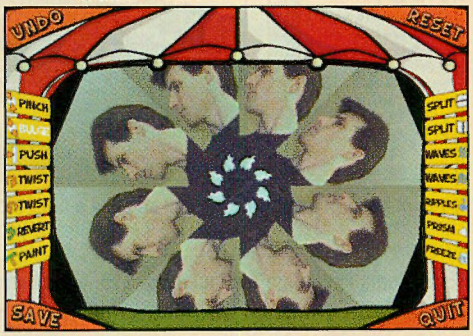
Edit movies like a pro with QuickEditor.

Worth a Try

VideoScope Evological, $30,
www.evological.com/videoscope.html
Perform real-time luminance and chrominance analysis for any video source.

MacVCD Mireth Technology, $10,
www.mireth.com/macvcd.html
You don't need a DVD-ROM drive to play Video CDs on your Mac—you just need this player.

VideoFunhouse Chaotic Software, $24.95,
www.chaoticsoftware.com
Twist, bulge, and squeeze a live video image for endless giggles.

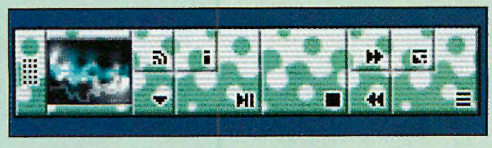


Create wild video effects with VideoFunhouse.

MP3
The International Corporate Conspiracy may have silenced Napster, but MP3 rocks on.

Must-Have

Mint Audio Unsanity, $13,
http://mint.unsanity.com
This clever MP3 player won't tax your Mac or clutter your desktop. The unobtrusive and collapsible interface sticks to the side of the screen, Control Strip fashion. Despite its small size, the program offers heavyweight features, including support for 30 audio formats, Internet streams, cross-fading, and skins.



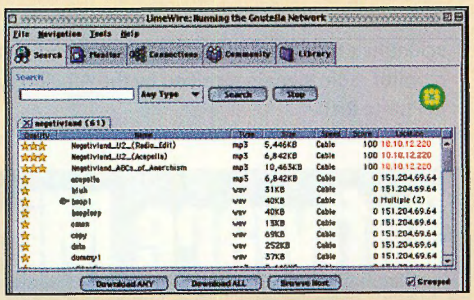
Mint Audio proves that size doesn't matter.

iTunes Apple, free, www.apple.com/itunes
Rip MP3s from CDs, search your entire music collection, and burn your own audio discs with this freebie from Apple. Or set off the psychedelic visualizer in a dark room for hours of mindless, drug-free entertainment.

Worth a Try

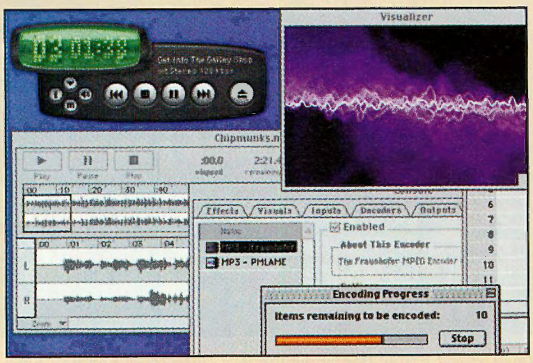
LimeWire Lime Wire, free,
www.limewire.com
Search the peer-to-peer Gnutella network for MP3s—plus many other kinds of files.

Macast @soft, $24.95,
www.macast.com
In addition to MP3s, Macast can play Shoutcast and Icecast streams and audio CDs. You also can tweak its look with skins.



Grab the goods from the Gnutella network with LimeWire.

Audion
Panic, $19.95 (player only) or $32.95 (player and encoder),
www.panic.com/audion
Play MP3s, CDs, and Internet audio streams. Also includes a sound editor and two encoding engines.



Encode groovy new MP3s with Audion.

Random but Cool

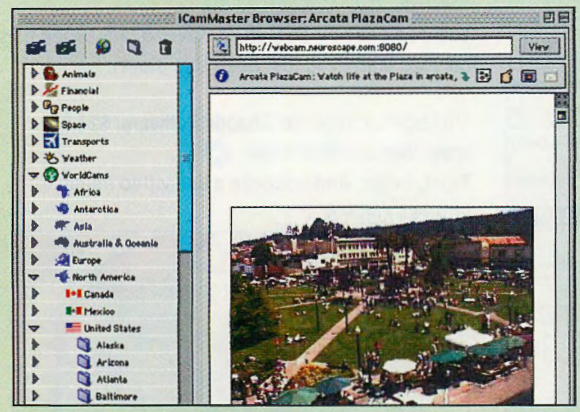
These programs may not be indispensable, but they're too cool to ignore.

Must-Have

iCamMaster

Catalunya Disseny Informatic, $20, www.icammaster.com

This app makes it easy to view Webcams, monitoring thousands of real-time images from around the world. Put your favorite cam on the desktop and iCamMaster will periodically update it, or record a Webcam's output as a QuickTime movie.



If you're stuck in a cubicle, you can step out a little with iCamMaster.

Bernie][The Rescue

F.E. Systems Emulation Technologies, $15, www.bernie.gs/Bernie

Run Apple II software on your Mac with Bernie][the Rescue. The program emulates Apple IIgs hardware, so you can play with classic software like Castle Wolfenstein and Visicalc. You need copies of the IIgs ROM file and system software, which you can download from www.emulation.net/apple2/. Legal? Maybe.

SETI@home

SETI@home, free, http://setiathome.ssl.berkeley.edu

Let your Mac search for signs of extraterrestrial life with SETI@home—it makes a cool screen saver, too. The project is a scientific experiment that uses Internet-connected computers to monitor radio signals received by the Arecibo Radio Observatory in Puerto Rico.

Worth a Try

Clear Skies

Ruedi Schmid, $10, www.stargazersoft.com/clearskies.html

Capture tonight's stars, constellations, and planets, then display them on your desktop.

DeskBots

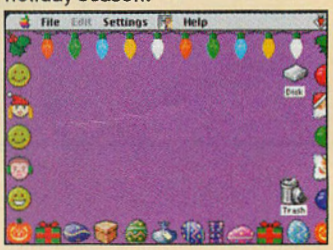
Black Magik Software, $15, www.blackmagik.com/deskbots.html

Cut your productivity in half with DeskBots, a talking, wisecracking artificial friend.

Holiday Lights

Tiger Technologies, $19.95, www.tigertech.com/hlights.html

Adorn your screen with flashing light bulbs—perfect for any holiday season.



Your neighbors won't complain if you leave these Holiday Lights up until May.

Window Monkey

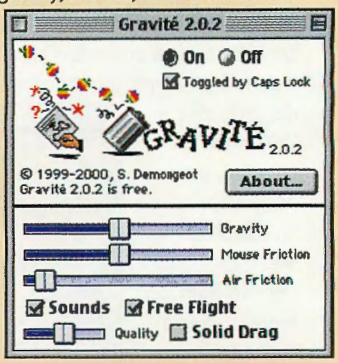
Tiger Technologies, $19.95, www.tigertech.com/monkey.html

Add background patterns, pictures, or textures to any window in the Finder.

Gravité

Sylvain Demongeot, free, www.wildbits.com/gravite

Make objects you drag (such as Finder icons) obey the laws of gravity, inertia, and friction.



Watch out for falling icons when you have Gravité.

WeatherCenter

Smashin Software, $10, www.smashin.com/WC

Monitor the current weather and get forecasts with this simple, customizable program.

MyEyes

Factor Software, $10, www.factor-software.com/myeyes.html

Put this pair of customizable eyes in your menu bar—they'll follow your cursor's every move.

Ever feel like you're being watched?

Software Mining Made Simple

Before you go digging around the Web for the shareware and freeware apps we recommend here, check out this month's Disc—*MacAddict*'s redoubtable Dr. Droo has stuffed it with well over 100 of 'em. To find the rest, check out some of our favorite Web sources, listed here.

Info-Mac HyperArchive
Although its text-only interface may look like it dates way back to 1994—which, in fact, it does—don't let lackluster looks fool you. Info-Mac is one of the Internet's largest collections of Mac downloads.
http://hyperarchive.lcs.mit.edu/HyperArchive.html

VersionTracker
Gawd, we love this site. In addition to offering days worth of downloads, VersionTracker keeps you up to date on all the latest and greatest software, tells you what's new in each version, and offers user reviews.
www.versiontracker.com

Download.com
Download.com offers links to the week's newest and most popular software. The weekly e-newsletter provides info on new software and upgrades.
http://download.cnet.com

MacUpdate
In addition to a heap of apps and games for Mac OS 9 and earlier, MacUpdate includes an OS X section, email notifications of updated software, and a daily list of new releases.
www.macupdate.com

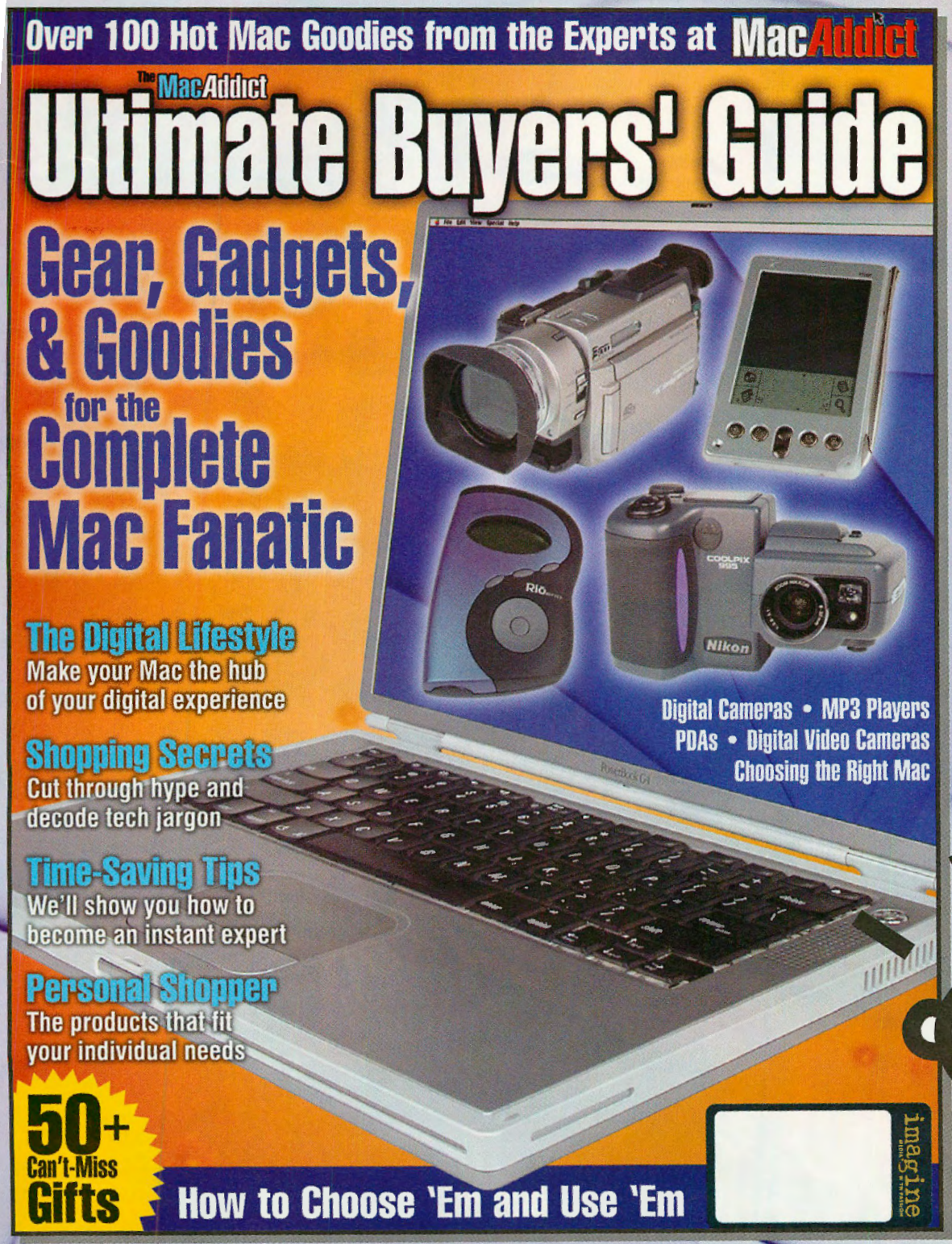
The Mother Ship
Want to know what the Cupertino Fruit Company regards as the best in Mac OS X shareware, freeware, updates, and demos? Apple's Mac OS X Downloads site offers the cream of the crop—from the tree's point of view.
www.apple.com/downloads/macosx

Kevin Savetz has written about the Mac since 1992, and he's been a shareware junkie for a lot longer. In the spirit of shareware, if you enjoyed this article, send him a dollar.

Coming to newsstands-

The Ultimate Mac Buyer's Guide

a special issue from MacAddict magazine.



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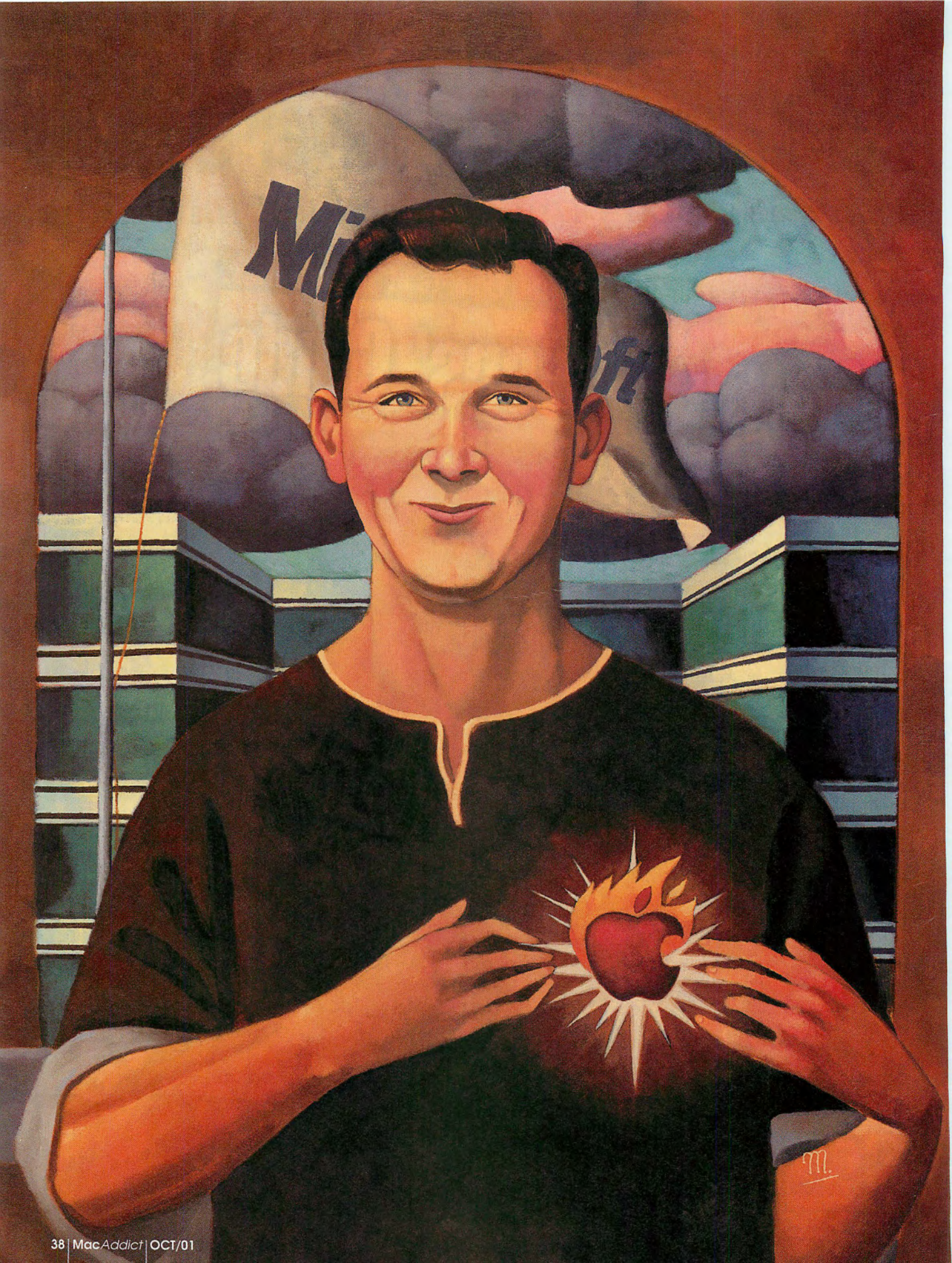


Even Microsoft would admit that it once treated Mac users as second-class citizens. Today, however, the company that foisted Windows on a defenseless public is one of the world's top Mac development houses. *MacAddict* recently made a pilgrimage to Redmond, Washington, to find out how one small but dedicated group is giving Mac users a reason for...

by Cathy Lu
illustration of Kevin Browne by Murray Kimber

Find the movie *Inside Microsoft* on The Disc.

Renewing the Faith

Microsoft Quick Facts

There's a lot of money and testosterone at Microsoft.

- Headquarters: Redmond, Washington
- Year founded: 1975
- Year of IPO: 1986
- Amount of money you'd have as of July 2001 if you bought $100 of Microsoft stock at IPO: about $38,000
- Amount you'd have if you bought $100 of Apple stock at IPO: about $300
- Number of employees worldwide: 43,887
- Number of employees in the Mac Business Unit: 185
- Average age of employees: 34.1
- Percentage of employees who are male: 73.6
- Amount of Microsoft real estate worldwide (square feet): 4,787,099
- Amount of real estate in all of Redmond (square feet): 462,781,440
- Microsoft's net income in the year ending June 30, 2000: $9.42 billion
- Copies of Office 2001 for Mac sold: more than 500,000
- Copies of Office 2000 for Windows sold: 60 million
- Cool employee perk: $1,000 worth of purchases in dirt-cheap Microsoft employee-only store
- Price of Office 2001 for Mac in dirt-cheap Microsoft employee-only store: $50
- Price of Office 2001 for Mac in retail store: $459.95 (ESP)

We love Microsoft. There, we said it. *We...love...Microsoft.*

Perhaps we denied our true feelings for a while. Maybe we even felt twinges of guilt as if we were betraying our adored platform. But it's time to accept the truth: Microsoft is—gulp—doing great things for the Mac. And the Mac community is better off because of it.

Now, is everyone ready for a big group hug?

No, we haven't been licking Mickey Mouse stamps, nor are we changing our name to *MicrosoftAddict*. In fact, we here at *MacAddict*—possibly more than anyone—realize the heresy of what we're saying. After all, we're talking about *Microsoft*—the company that made bazillions off a cheap Mac OS ripoff, the company that at one point almost dismissed the Mac market altogether as insignificant, the company that once made Mac software *so* bad that users had to wait a full minute before their word processor would load. Yes, *that* Microsoft—the Evil Empire.

Yet there's no denying that the House of Gates—an important chunk of it, in any case—now seems to *get* what Mac users want. Witness Office 2001 and Internet Explorer 5. Both include significant improvements over their previous incarnations, both contain supercool features not found in their Windows counterparts, and both rival any Apple software in elegance and effective user-interface design.

What's more, Microsoft is currently on track to ship its Office suite of applications—Word, Excel, PowerPoint, and Entourage—for Mac OS X this fall, just one year after releasing Office 2001 for Mac. That's a tremendous feat for a company that traditionally takes at least one congressional election cycle to rev a product (that's two years, for all you folks who slept through civics class).

The Forgotten Platform

Microsoft's changed attitude about the Mac began with one historic event: the formation of the Macintosh Business Unit almost five years ago. Ironically, that move was a result of a series of meetings in which one of the top agenda items was whether to dump Mac support altogether like last week's tuna salad.

The question of how to deal with the Mac had plagued Microsoft since the late eighties. At that time, the Mac and Windows versions of Microsoft apps had separate code bases. Unfortunately, this meant that file formats differed, so programmers had to bog down apps with file converters—for instance, there was a Word for Windows file converter in Word for Mac. What a pain.

> At one point Mac software became such an afterthought that executives questioned whether the company should sell the Mac code base or even continue to support our beloved machines.

A Village People reunion? Nope, from left to right it's MacBU general manager Kevin Browne, product manager Erik Ryan, and group program manager Mike Connolly spelling out the name of their favorite computer.

In the early nineties, Microsoft decided to try something different: a *shared* code base. According to Kevin Browne, general manager of the Microsoft Macintosh Business Unit (affectionately referred to as the MacBU or Mac-Boo), that strategy worked well for several years—that is, until 1994, when Microsoft released the disastrous Word 6 as part of Office 4.2, itself a Mount Vesuvius–size catastrophe.

"Something...in the wrong place screams out to a Mac user, where a Windows user is much less discerning."
-Kevin Browne, general manager, Microsoft Macintosh Business Unit

Longtime Mac users remember the nightmare well (in fact, some of us still wake up at 3 a.m. in a cold sweat after dreaming about it). Word 6 took a full minute to boot up; fast typists were constantly waiting for the application to catch up to their key taps; and if you so much as renamed your hard drive, Word lost track of its spelling checker. Using it was more painful than a Barbra Streisand movie marathon. The problem? Because Microsoft had based its code on the Windows version, Word 6 for Mac exhibited some curiously Windows-esque behavior. Browne explains: "A Windows user uses a setup program, and they install something in one place, and they leave it there, and they never touch it again. A Mac user will install something, then they'll rename their hard drive, they'll rename folders, and they'll drag the program folder inside some other program folder—all of those kinds of things would break functionality in Office 4.2."

The fact that the Windows OS started booming by the mid-nineties did little to help. At that time, says Browne, Windows had 80 or 90 million users, versus the few but proud 10 to 12 million Mac users. "In the process of building Office 4 for Windows and Mac, we came to a point where every group was under such pressure to get the product out that we started saying, 'OK, well, the Mac's going to take more time, let's actually set that one to the side and we'll continue doing the Windows version.'"

At one point the Mac version became such an afterthought that executives started to question whether the company should sell the Mac code base or even continue to support our beloved machines (granted, they were drab beige boxes at the time). But in a series of discussions, several Microsoft executives stated that they would consider buying the Mac code if it were for sale. Microsoft realized that it actually had a small but respectable treasure trove in the Office suite for Mac and decided to spin off a division devoted entirely to Mac products. Sure, the move was nothing more than a bottom-line business decision—but hey, it's worked out well for us.

Operation Office

When Microsoft spun off the MacBU in early 1997, the first order of business was to fix the massive problems of Office 4.2, a job requiring a Shaquille O'Neal–size effort. "Customers told us," says Browne, "that on average, a Mac cost them less to maintain over time than a PC. Until you put Office 4.2 on it, and then it started costing *more* to maintain than a PC." The fruit of the MacBU's efforts was Office 98, which fixed performance and installation problems, allowing users to drag and drop the Office folder onto their hard drives rather than having to deal with an installer.

If Office 98 was a debutante's tentative step into Mac society, Office 2001 was a giant coming-out ball. While Office 98 for Mac mirrored Office 97 for Windows in terms of features, Office 2001 boasted massive interface improvements. It included approximately 40 new features not available in the Windows equivalent, and even introduced a so-called new app in the form of Entourage (we think of it more as Outlook Express with fancy hubcaps). In fact, the Mac Office division neither consults with nor pays much attention to the Windows Office division, other than making sure file formats are compatible. Think of the group as Microsoft's version of the U.S. Virgin Islands—Microsoft may own the MacBU, but the MacBU governs its own products.

The hands-off nature of the relationship may surprise you, but it makes sense—after all, Mac and Windows users are about as similar as Barry Manilow and Megadeth. Office for Windows caters to faceless megacorporations like the company that produces it. In creating Office for Mac, on the other hand, the MacBU has to keep in mind Apple's core markets: educators and students, home users, and creative types. As a result, the MacBU sets its own priorities and is free to

We didn't have any Bill Gates sightings while we were at Microsoft—but not for lack of effort on our part. We stalked this building where he works to no avail.

Q&A with Kevin Browne

On Mac OS X, Bill Gates, and the Evil Empire

Kevin Browne is the big cheese at the MacBU.

You have to admire Kevin Browne for his grit. He had the unenviable task of flying state to state visiting Mac users (and you know how we can be, heh, heh) when the company was trying to figure out what went wrong with Office 4.2. Now, as head of the MacBU, he must guide the migration of its apps to a new operating system. We drilled Browne about a variety of topics and got the skinny on the Apple app that caught Bill Gates's attention.

***MA:* When is a Mac OS X version of Office due out?**
KB: We've said the fall is our timeline.
***MA:* Will we see new features or will it be Office 2001 running under OS X?**
KB: You are definitely going to see new features. As we've watched OS X products go out the door, we've noted that most companies are taking a fairly conservative approach, and they're actually building Carbon applications which will run on OS 8.6 and 9 as well as on OS X. We're very aggressively moving to building an OS X–only product.
***MA:* Doesn't releasing a new version of Office one year after your last version really cut into your development cycle?**
KB: The entire Mac community is going through the switch to a different operating system—a different platform, really, for the future. And we simply had to make tradeoffs between the comfortable process we'd always used and the need—as much political and as much image-based as anything else—to be seen as helping the community get there.
***MA:* How does developing for Mac OS X differ from developing for OS 9?**
KB: The analogy I like to use is [it's] kind of like those little model ships in a bottle. You could express yourself artistically on OS 9, but you were always running into limits—you were always knocking up against the glass, if you will. With OS X, there really are no limits, and you can express yourself in exactly the way that you feel like you should.
***MA:* Can you give us an example?**
KB: With an app like Word, you have to design for every user [from] the

A roomful of Macs at Microsoft. It's just so, well, unexpected.

add the features it thinks Mac users will appreciate—a prime example is the floating formatting palette, a feature you won't find in the stodgy Office 2000 for Windows.

"We can take a chance where a bigger business that materially impacts Microsoft's bottom line may not be able to take those chances," Browne says. "Something...in the wrong place screams out to a Mac user, where a Windows user is much less discerning." And the truth shall set you free.

Sleeping with the Enemy

The very notion of a Mac fanatic working at Microsoft seems strange. Yet in the MacBU, that's just what you'll find—people who are passionate about the Mac, believe in their products, and aren't afraid to be seen in T-shirts that say "I Don't Do Windows." "There are certainly people in the business unit who haven't been using Macs since they were 12 years old," says Browne, who first used a Mac in 1985, "but absolutely everybody who's here has to drink the Kool-Aid. They have to get the feeling of what it's like to be a Mac user."

In fact, Microsoft employs a number of people who used to work at Apple, Claris, and other Mac allies. But for some, making the decision to join Microsoft felt a bit Benedict Arnold–ish. As one MacBU employee who used to work for Aldus says, "At first, when they made the offer, I was like, 'No way. You're Microsoft.'"

As you would expect, being a Mac-head at Microsoft does involve its share of evangelizing and making others see outside their bland, Windows-centric worlds. "When I run into people like that, I usually say, 'Let's go get a cup of coffee and talk about it,'" says Group Program Manager Mike Connolly, who oversees the development of Office. "I explain to them for 10 or 15 minutes what it's like, what our code base is like, and what it's like making software for...a unique group of people."

Or there's Browne's approach—carry around a PowerPoint presentation that compares today's Apple to the Apple of 1997, including information on cash position, machines, and inventory on hand. When Apple issued earnings warnings earlier this year, Browne had to deal with his fair share of naysayers who relegated Apple to death row again. Now, whenever someone smirks that Apple is going out of business, Browne is armed and ready to fight.

What the Future Holds

The MacBU has one and only goal right now: finishing Office 10 for Mac OS X. Beyond that, the group will tweak Internet Explorer for both Mac OS 9 and OS X, as well as figure out how to proceed with development of OS X products. It's not opposed to expanding the Office suite of products but does admit that the migration of Microsoft Access to the Mac is about as likely as a tidal wave in Kansas.

"Part of [our future] is just seeing how quickly people go to OS X," says Browne, "...whether the use of Macs changes in any way, seeing if some established competitors falter on the way there, and if there's an opportunity for us to provide more value. To serve a larger portion of the user's time spent on a Mac, or to fundamentally change their use of a Mac...These are the kinds of things we're going to be doing."

Myths and Facts

You may just think of Microsoft as the evil conglomerate that...well...that it is. But the truth of the matter is that parts of Microsoft aren't as malicious as they may seem from the outside. On our trip to Redmond, we debunked a few of our own myths about Microsoft.

Myth: Bill Gates is using the Microsoft Mac lab to secretly hatch a virus that will cripple all Macs.
Fact: The lab (employees claim it's the largest Mac lab contained in one room in the world) features Macs from various eras running all different versions of the Mac OS. It's used purely for product testing.

Myth: An electronic ticker on the main campus counts the number of competitors Microsoft has screwed.
Fact: An electronic ticker on the main campus counts down the number of days until Windows XP ships.

Myth: The Microsoft Museum features an Apple deathwatch timeline.
Fact: The Microsoft Museum features an exhibit showing off the evolution of PCs.

Myth: For sport, Microsoft employees play darts on a target in the shape of Steve Jobs's head.
Fact: For sport, Microsoft employees play Foosball, ping-pong, soccer, and Frisbee—just like normal people.

person who's writing a one-page letter to Grandma to Amgen, who creates 700-to-1,000-page documents for submissions to the FDA on a drug-approval process...So in OS 9, where you had to say 'this is how much memory Word is going to use, [for]ever,' when you first launch, that's a really hard thing because the range of requirements is so broad. For OS X, not having to do that—having the system manage all the things [it] should manage—is wonderful.

***MA:* Have you met Bill Gates?**

KB: Yeah.

***MA:* What is he like?**

KB: Bill is a perfectionist. He's a technology-minded person. He's incredibly focused on customer experience. He's probably harder on us internally than he is on anyone else. He has a way of cutting through all the BS and identifying the core element we're missing. So it's actually a great thing.

***MA:* Does he sit down and look at Mac products and make comments?**

KB: Absolutely...He likes to look at code. He likes to sit down with the smart guys and talk specifically about what they've done and how they've done it.

***MA:* Can you think of an example where Bill Gates has said he liked a certain Mac feature?**

KB: I had an opportunity to brief him on iMovie. And, you know, he literally turned around from that meeting and said, "Apple has something big here with this desktop movies effort. You guys"—he actually pointed to the digital media division, the guys who do the Windows Media Player, and said, "You guys are just way behind. You've got to go, you've got to figure out a strategy."

***MA:* Do you think Microsoft is the Evil Empire?**

KB: No, absolutely not. I think Microsoft is an aggressive competitor. The company has gotten where it's gotten by focusing on customer problems and by aggressively pushing products out the door. Microsoft beat Lotus in the spreadsheet game and beat WordPerfect in the word processing game because we focused on what was unsatisfying about the technology to people and pushed out version after version after version that improved the experience....At the same time, Lotus stood still and WordPerfect stood still. To some extent, Apple in the early- to mid-nineties stood still.

Cathy Lu swears she has not been brainwashed by Microsoft, although she *is* feeling very, very sleepy.

reviews

Get yer wish lists ready—the holidays are just around the corner...

Bryce 5

design & graphics

Company: Corel
Contact: 877-662-6735, www.corel.com
Price: $299 (SRP), $149 upgrade
Requirements: Power Mac, Mac OS 8.6 or later, 64MB RAM (128MB required for Mac OS X), 100MB free hard disk space, 24-bit video card, 800 by 600 display, CD-ROM drive

Bryce 5 now lets you "plant" trees, such as these weeping willows created from a custom leaf.

FREAKIN' AWESOME! The most valuable products, the coolest gizmos.

SPIFFY A solid offering. Overall a good investment.

YEAH, WHATEVER Neither recommended nor rejected. Some might like this, but we weren't impressed.

BLECH! Give us back the time we spent testing this.

Once a mere landscape generator, Bryce has evolved into a wonderfully flexible 3D art and animation tool. Bryce 5 is Corel's first major update since the company purchased the program from MetaCreations in 2000. Not only does Bryce 5 run natively in Mac OS X, it also boasts expanded modeling and rendering powers—including metaballs, network rendering, new labs, and new rendering options.

Bryce 5 makes it easier than ever to create foliage-filled, landscaped environments, thanks to its two new labs—the Tree Lab and the Light Lab. The Tree Lab lets you generate unique and realistic-looking trees via an easy-to-use interface where you can set the tree's complexity, establish its number of leaves, and institute the base shape for both the trunk and the foliage. You can also choose the type of materials and the color for the trunk and leaves. For greater detail, you can import custom leaves (see "Make Like a Tree and Leave," below).

The Light Lab provides all the tools you need to shed light on your objects and/or landscapes—from sunlight to artificial light. The interface features controls for brightness, direction, materials, color, softness, and more. You can now create gradients—introduced in the Bryce 4.1 patch—in the Light Lab.

To give environments more authenticity, the Sky Lab incorporates a star chart, accessible via a sky-dome control, to create real-world heavens. You can move the dome to view various parts of the sky and constellations. You can also randomly generate stars by pressing the Option button, as well as place the sun and moon with a click of the corresponding button. For even more realism, Bryce 5's new rendering options include depth of field, true ambience, blurry transmissions, and soft shadows.

Bryce's metaballs, greatly versatile despite their simplicity, widen the program's modeling repertoire. Metaballs are round globules that you can group together to serve as the building blocks for a model, giving it a more organic feel than polygonal (sharp-edged) modeling. In Bryce,

Make Like a Tree and Leave

To give trees a truly unique look, use custom leaves composed of two 2D images. One image shows a colored leaf on a black background; the second displays a solid-white leaf mask. Creating custom leaves is easy.

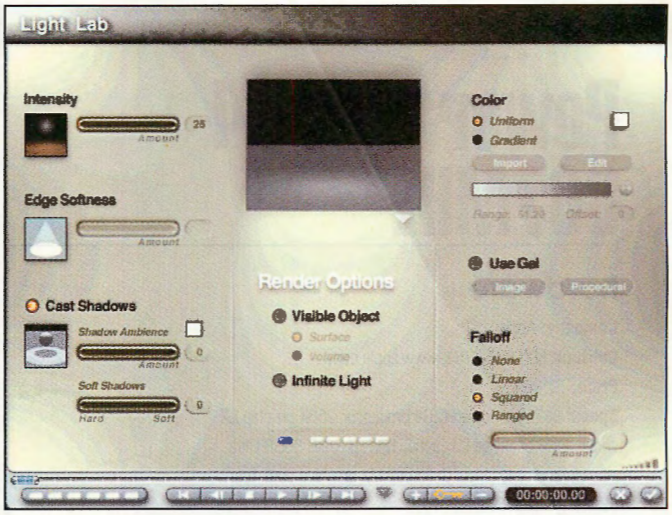
In Photoshop (or a comparable image editor that supports layers), create two new layers. Fill the background layer with black. On the first (middle) layer, use either the lasso or the pen tool to draw a leaf shape, then fill the area with white. With the leaf shape selected, switch to the second (top) layer and paint the leaf with your choice of colors. Then save your leaf as a layered document.

Next, save two additional flattened copies (in TIFF, PICT, or JPEG format) of the image—one with all layers visible, and the other with the top layer hidden to reveal the white leaf shape.

In Bryce, open the Tree Lab. From the Shape drop-down menu under Foliage, select User Leaf, then click the Material button and select Edit. In the interface, click the P next to the User Leaf picture. In the leftmost window, click the white dot to load the colored leaf. In the middle window, click the white dot to load the black-and-white leaf. Then click the check-mark button in the Picture Loader, the Material Editor, and finally the Tree Lab to exit and save the change.

The new Tree Lab lets you easily create authentic-looking or wildly surreal trees.

Adding simple or complex surface materials to your models is a no-fuss affair with the Materials Lab and the Material Library.



The new Light Lab provides great controls for illuminating your scenery, letting you tweak shadows and control light dispersion.

metaballs work like Boolean operations—their relationships don't manifest visibly until render time. Unlike Boolean primitives, however, metaballs don't require grouping to work together. In fact, with metaballs, grouping works just the opposite way, keeping sets of metaballs from interacting with other sets.

In most cases, the textures we applied to metaballs blended perfectly at the seams. Unfortunately, some complex materials—namely, those created in the Deep Texture Editor with a combination of noises—can cause Bryce to quit unexpectedly when you apply them to a metaball group that you subsequently duplicate. The duplication caused our Mac to crash. Our ultimate work-around was to duplicate the metaball group first, and *then* add materials to each copy—not exactly efficient, but we avoided any unexpected crashes.

The updated Terrain Editor now supports larger terrains, up to 2,048 by 2,048 pixels. It also features more grays for smoother transitions and greater detail. The paintbrush has the same size range as in previous versions—but strangely enough, it can't access the top row of pixels, which caused our inverted terrains to display a 1-pixel row of white along the top, creating the illusion of a sharp ridge. Our work-arounds included removing the ridge with the clipping tool; creating elevation maps in a separate graphics program and importing them; and exporting inverted terrains, then removing the ridge by deleting the unwanted polygons.

The newly integrated network rendering saves time when you're rendering animations, but it's buggy. Complex materials don't render identically between host and client machines, causing unexpected color shifts. Animators who prefer to render animations as a series of individual frames rather than as a QuickTime Movie can't use network rendering—the process will stop after the first frame.

Bryce's new file-saving methods caused us some alarm. Prior versions of Bryce automatically saved numbered files with the next sequential number whenever you used the Save As option. Unfortunately, this is no longer the case. Now the name of the rendered image you export defaults to the name of the previously saved image. This makes it dangerously easy to overwrite files by accident if you're not paying close attention.

Bryce 5 lets you create gorgeous terrains easily and has some wonderful new features—but it's a diamond in the rough. The problems with metaballs and network rendering make adding complex textures difficult. If Corel fixes these problems, the program will truly shine. Nonetheless, Bryce 5 is a worthwhile upgrade.—*Sarah Sammis*

good news: Great new features. Runs natively in Mac OS X.
bad news: Some bugs in the Terrain Editor, editing materials, and saving.

Undocumented Features

Metaballs To produce a negative metaball, hold down the Shift key while you're creating a metaball.

Spheres Hold down the Shift key when you draw a sphere to make it oblong.

Export Objects Press the E button, then Command-D to bring up an export window.

Easy Forests Place a bunch of spheres or other primitives in areas where you want trees, then select the Edit tab. Click the double arrow in the top-right corner and select the tree icon to convert the spheres into a forest. For topiary, stack a few spheres and then convert them to trees.

in review

design & graphics
Bryce 5 p42
Art•lantis 4 p48

fun & games
Pong: The Next Level p47
Breakout p47
Diablo II: Lord of Destruction p49
Tomb Raider Chronicles p51
Tropico p62

hardware
Apple Power Mac G4 867MHz p44
veloCD p45
Dymo LabelWriter 330 Turbo p49
Nikon Coolpix 995 p50
Epson Expression 1680 Professional Firewire p53
Apple 17-Inch Studio Display p54
LaCie photon18blue p54
Sharp LL-T1810A p54
EZQuest Boa FireWire p56
Canon ZR30 MC p58
Iomega Predator FireWire CD-RW p59
FriendlyNet p59
Olympus C-700 Ultra Zoom p60

multimedia
Cinema 4D XL 7 p61

audio & music
Absynth 1.2 p46
SampleTank XL p52

development
CodeWarrior Learning Edition 2.0 p56

kids' stuff
Jurassic Park III Dino Defender and Danger Zone p57

Power Mac G4 867MHz

hardware

Company: Apple
Contact: 800-692-7753, www.apple.com
Price: $2,499
Specs: 867MHz PowerPC G4 processor, 256K on-chip L2 cache, 2MB backside L3 cache, 128MB RAM, 60GB Ultra ATA/66 hard disk, nVidia GeForce2 MX graphics card, four 33MHz PCI slots, SuperDrive

G4 PHOTOGRAPHY BY W. B. JONES

A slightly refined exterior design houses highly refined innards.

Let's first dispense with what we *don't* like about the sleek new Power Mac G4 867MHz (code-named Quicksilver): It's missing that little hole next to its optical drive—you know, the one where you insert a paper clip to eject a stuck disc? There. That's it. We're done with the negatives.

The rest of the Power Mac 867MHz is thoroughly impressive. First of all, let's talk speed: Its top-of-the-line processor not only has 256K of on-chip L2 cache running at a full 867MHz clock speed, but also boasts an additional 2MB of backside cache running at 217MHz—all connected to SDRAM and other necessary system-hardware goodies over a 133MHz bus. This muscle generates top-end performance, as well as more heat than any previous G4. However, we experienced no problematic toastiness, since the upgraded cooling and power schemes meet the challenge.

All this power adds up to hiney-kicking performance. Our tests show that the Power Mac 867MHz can accomplish typical Photoshop tasks more than twice as fast as a 400MHz G4, and a ludicrous five to seven times faster than a poor lil' 350MHz iMac. If time is money to you, the 867MHz G4 will save you both.

The Power Mac 867MHz's other stats are equally impressive—with one exception: a measly 128MB of PC133 SDRAM. The system comes standard with 60GB of zippy 7,200 rpm ATA storage, 10/100/1,000Base-T Ethernet, four 64-bit PCI slots tweaked to provide higher performance than previous models, two USB and two FireWire ports, the ubiquitous 56-Kbps V.90 internal modem, and a 4X AGP slot stuffed with a snappy nVidia GeForce2 MX graphics card.

High-end gamers take note: While the GeForce2 MX is plenty potent for graphics professionals, devotees of ultrarealistic full-motion 3D graphics might want to ask the Apple Store to build a Power Mac 867MHZ with an nVidia GeForce3 upgrade—it'll cost an additional $350, but you'll appreciate the improved visuals.

The Power Mac 867MHz also includes two unoccupied 3.5-inch drive bays as well as a bay below the SuperDrive, where you can install a Zip drive or other appropriate removable-cartridge drive.

The Power Mac 867MHz has the same easy-open case as recent towers, including a back panel with no monitor-power outlet. Seems Apple's pushing its ADC-powered displays.

Speaking of the SuperDrive—how cool is it? In a word, *totally*. It reads and writes CD-RWs and CD-Rs, and reads CD-ROMs, audio CDs, and feature-film DVDs. But best of all, it allows you to use Apple's iDVD (and the soon-to-be-released Mac OS X-only iDVD 2) to create your own DVDs, playable on just about any consumer DVD player or DVD drive. With the SuperDrive-equipped Power Mac 867 MHz, you can create your own DVD-video masterpieces, watch all your John Waters DVDs, backup on CD-R and CD-RW, listen to your Radiohead CDs, or squander an entire weekend playing Diablo II. SuperDrive—it fits your get-a-life style.

In our tests, the SuperDrive worked perfectly—and, no, we never regretted that a straightened paper clip couldn't get us out of a jam, because we didn't get caught in any.

So, on second thought, maybe we don't have *anything* negative to say about the Power Mac 867MHz. Oh, the lack of ample SDRAM? It's cheap. Go buy some yourself. —*Rik Myslewski*

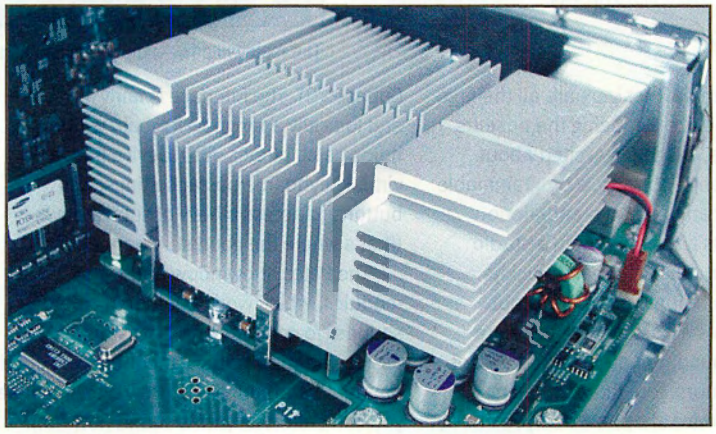
good news: Impressive performance. Good price. Versatile SuperDrive.
bad news: Meager RAM out of the box. No emergency-eject button for the SuperDrive.

Photoshopping Spree

Putting a variety of file sizes through some common Photoshop tasks, we pitted the Power Mac 867MHz running Mac OS 9.2 against a 400MHz G4 running OS 9.1 and a 350MHz iMac running OS 9.0.4. We equipped each Mac with 128MB of RAM and set its Photoshop partition to 70MB. Simply put, the Power Mac 867MHz kicked major butt.

	867MHz G4			400MHz G4			350MHz iMac (G3)		
File Size	10 MB	50 MB	100 MB	10 MB	50 MB	100 MB	10 MB	50 MB	100 MB
Rotate File (1°)	1.3	11.5	44.0	2.9	25.0	78.0	6.9	63.0	179.0
Gaussian Blur	0.8	11.0	24.8	1.2	23.3	55.0	5.3	61.0	122.0
Unsharp Mask	0.9	12.3	27.5	1.8	25.5	53.0	5.8	54.0	121.0
TOTALS	3.0	34.8	96.3	5.9	73.8	186.0	18.0	178.0	422.0

All times are in seconds. Smaller numbers are better.



This massive heat sink protects a horde of high-performance chippery—without it, you'd have one expensive glob of melted silicon.

FireWire External veloCD

hardware

Company: TDK
Contact: 516-535-2600, www.velocd.tdk.com
Price: $399.99 (SRP)
Requirements: G3 or faster Mac, Mac OS 9.0–9.1, native FireWire port

Pulsating light show on the outside, stealthy CD burner on the inside.

PHOTOGRAPH BY W. B. JONES

TDK's FireWire External veloCD external CD-RW drive became our latest gotta-have-it gadget when we heard that it pumps out a hypnotically pulsating light show. Awesome. We broke out our disco ball, got ready to rip some rave mixes, and wondered if the veloCD's strobe velocity would send us into seizures.

Relax—it won't. But this drive sure is purty. The 16X write/10X rewrite/40X read veloCD has a space-age feel with its sleek silver exterior; a cool-blue illuminated tube runs across the top and pulsates whenever you burn or play a disc. It's also one of the best-designed casings we've seen—an accessible headphone jack and volume knob? Who'd of thought? Press the eject button, and the translucent CD tray, bathed in blue light, glides into view like something out of *Close Encounters of the Third Kind*.

Installation is a no-brainer—just install Roxio Toast (it's included, along with MusicMatch Jukebox), plug in the drive (cables included), and you're ready to go.

We challenged the veloCD with our pack-ratted files and encountered success every time. Backed with Burn-Proof technology, the device ripped and burned a 44-minute audio CD in 8 minutes, 11 seconds; copied 513MB of hard drive data in 4 minutes, 21 seconds; cloned 64 minutes of MP3s in 6 minutes, 36 seconds; and wrote data sessions flawlessly.

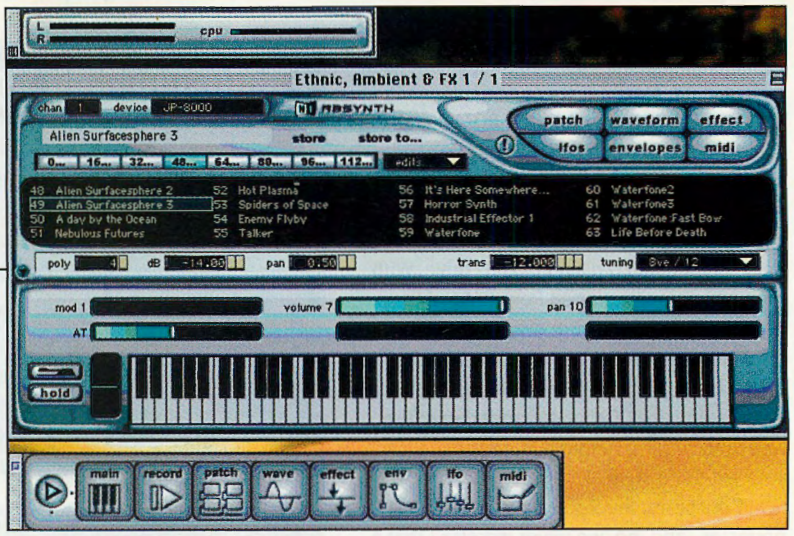
If you're looking for a reliable CD burner with a high-ranking cool factor, TDK's FireWire External veloCD offers beauty on the outside as well as deep within. OK, $400 is a lot, but peace of mind—and mindless entertainment—are beyond price.—*Kris Fong*

good news: Cool techno looks. Consistent burns.
bad news: Expensive.

Absynth 1.2

audio & music

Company: Native Instruments
Contact: 866-556-6487, www.native-instruments.net
Price: $299 (SRP)
Requirements: 300MHz Power Mac or faster, Mac OS 8.6 or later, 64MB RAM, 20MB free hard drive space, Opcode OMS or MOTU FreeMIDI, CD-ROM drive



The main window—note the quick-access bar at the bottom for launching subwindows.

Find an Absynth 1.2 demo on The Disc.

Software synthesizers are all the rage these days. So, being the poseurs we are, we got all excited about Native Instruments' Absynth, a programmable soft synth you can use as a stand-alone instrument or as a component in a studio setup. However, our excitement quickly faded as its limitations bummed us out.

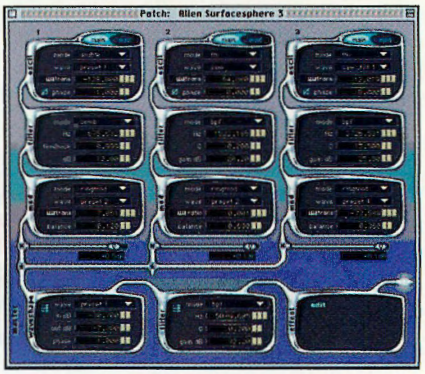
Absynth uses a host of tools to create sound. Each sound, or patch, can consist of up to six oscillators, four filters, three ring modulators, a wave shaper, a delayed effect, and various envelopes. The app's wave-synthesis architecture is semimodular: The patches are user-configurable, but their flow remains static. You can create sounds from scratch or with factory presets, and use them with other major audio-sequencing and recording platforms, including VST 2.0, DirectConnect, MAS, ASIO, FreeMIDI, OMS, and SoundManager.

Installation is simple, and the included printed manual is fairly straightforward. We were pleased when Absynth integrated effortlessly with our Pro Tools rig and with Cubase VST. The interface is fairly attractive and logically arranged—its main window holds patch names, MIDI device info, a virtual keyboard, master settings, and buttons to access a bevy of subwindows (that's where the good stuff happens).

The Patch subwindow houses 12 modules, which work together to create sounds. To generate and alter sounds, you assign various modules and then tweak their parameters to your liking. However, because you can't alter Absynth's sound flow from module to module, we felt restricted by this process. We didn't have the freedom to route sounds as we saw fit like we can in other programs, such as BitHeadz's Retro AS-1 (www.bitheadz.com).

The Envelope subwindow is powerful, and its flexibility impressed us. It houses envelope generators, allowing you to alter patch-module parameters over time. We created some complex, time-based sounds using multiple envelopes. Also good are the LFO (low-frequency oscillator) subwindow, which houses three oscillators for additional modulation; and the Wave subwindow, which lets you edit sound waves graphically.

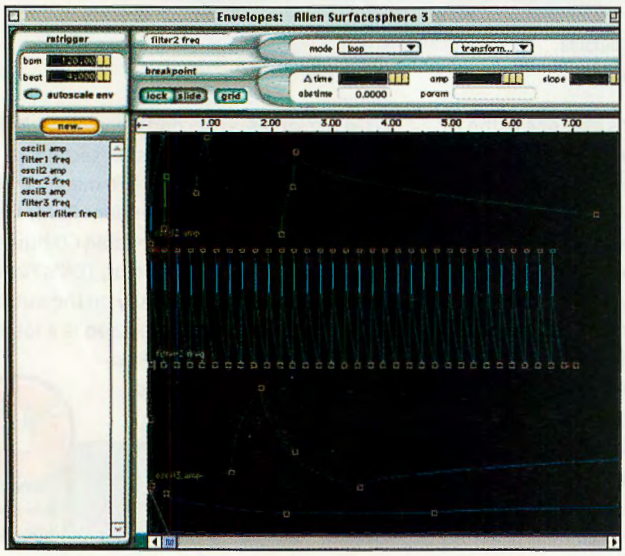
However, Absynth has its share of anemic features. The Effects window offers delay-based effects—that's it. This one-effect ploy might have been cool in the seventies, but today it's a joke. The MIDI window, which handles routing of external MIDI controls, is limited, too—it supports only five controllers handling basic tasks (pan, volume, filter frequency, and so on).



To create sound, you assign and activate the modules in the Patch window.

In operation, Absynth performed well with other software. We didn't come across any CPU issues or sound problems, and external MIDI control was smooth. Unfortunately, Absynth's inability to sync its parameters to our sequencer via MIDI beat clock or MIDI time code hampered our effort to create sounds that modulated in perfect rhythm with our other tracks.

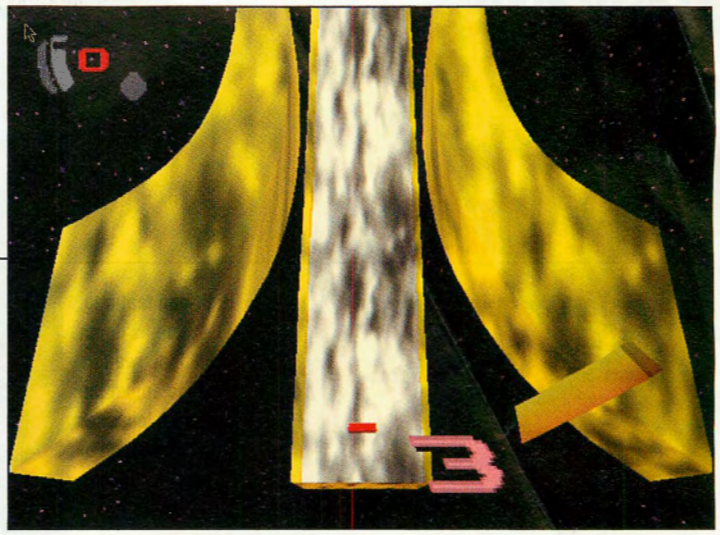
Though Absynth allowed us to sculpt some pretty expressive sounds, its uncompromising routing and MIDI limitations made us question the usefulness of this software. Considering Absynth's price and the other software options available, Absynth has a ways to go if it wants to make our shortlist.—*Andrew Freid*



The Envelope window offers some powerful sound-synthesis possibilities if you're keen on wave editing.

good news: Seamless integration with third-party sequencing and recording platforms. Strong time-based (envelope) modulation options. **bad news:** Doesn't support MIDI beat clock or MIDI time code. Extremely limited effects palette.

Pong: The Next Level



fun & games

Company: MacSoft
Contact: 800-229-2714, www.wizworks.com/macsoft
Price: $19.95 (SRP)
Requirements: G3 or faster Mac, Mac OS 8.6 or later, 64MB RAM, 180MB free hard disk space, Rage Pro or faster graphics card, CD-ROM drive

If you can stand the flogging of the Atari logo, Pong is a good game.

Just when you thought retro was on its way out, along comes a game sure to make former paddle pros raise an eyebrow. MacSoft's Pong is loosely based on Atari's 1972 hit by the same name—in roughly the way one could loosely base a car's design on a chariot's. The new version provides 260MB of OpenGL-rendered action and stretches Pong's simple concept quite far. Despite a clumsy interface and enough nostalgic schmaltz to sicken Lawrence Welk, the game is engaging enough to be worth its relatively low price.

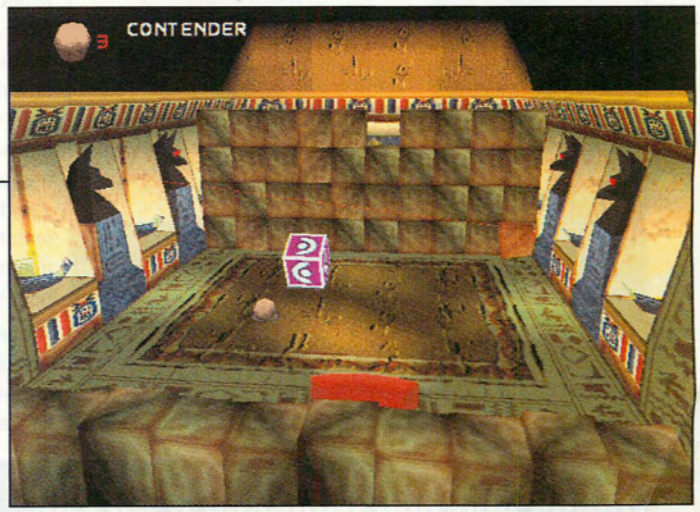
You control a 3D version of the same rectangular paddle that starred in the original game. Pong features level after level of challenges, ranging from slight modifications of the original game to variations that only resemble the old game in that they involve a ball and a paddle. As you complete levels, an Atari logo gets painted gold to represent your progress.

The game suffers from overblown Atari nostalgia—by the end, you'll have seen more of the logo than Atari's marketing department did in the early eighties. Its clunky interface is marred by controls you can't modify and poorly designed keyboard presets.

Still, Pong is an enjoyable, well-conceived game for a low price. The levels are varied and numerous enough to provide solid entertainment for a good while.
—*Ian Sammis*

good news: Wide variety of levels and challenges. Engaging gameplay. **bad news:** Clumsy interface. Overabundant nostalgia is slightly nauseating.

Breakout



fun & games

Company: MacSoft
Contact: 800-229-2714, www.wizworks.com/macsoft
Price: $19.95 (SRP)
Requirements: Power Mac G3 or better, Mac OS 8.5 or better, 32MB RAM, 350MB hard disk space

Well, it *almost* looks like the real thing...

The developers of Breakout clearly conceived it as a sequel to MacSoft's Pong—the characters have the same appearance and the puzzles share its look and feel. Unfortunately, it's an underfed sequel—it took us several days of gameplay to get through all of Pong's levels, but we finished Breakout depressingly quickly. Of all the games MacSoft has introduced based on Atari classics, Breakout is the weakest by far.

Breakout is based on the 1976 Atari game by the same name (originally written by Steve Jobs and Steve Wozniak!) in which you play one of the paddles from Pong (see above). Your task is to free first yourself, then your comrades from imprisonment. In most cases, you simply destroy a barrier by hitting the bricks that comprise it with a ball, but this game has a few unique tasks that you won't find in the original game—fleeing a wolf, battling a dragon, and bumping ducks come to mind. So far, so good.

Unfortunately, Breakout lacks substance. The game feels slipshod compared to Pong—you can't alter the controls once gameplay begins, and the tutorial game actually misidentifies them. And winning Breakout feels trivial; we finished the entire game in less than a single day. To add insult to injury, many of the character designs are cutesy enough to discourage anyone but a Barney-loving toddler. While the game has its high points, you'll find many better games on the market for your 20 bucks.—*Ian Sammis*

good news: Basically enjoyable. **bad news:** Way too easy to win. Annoyingly cute. Mislabeled controls.

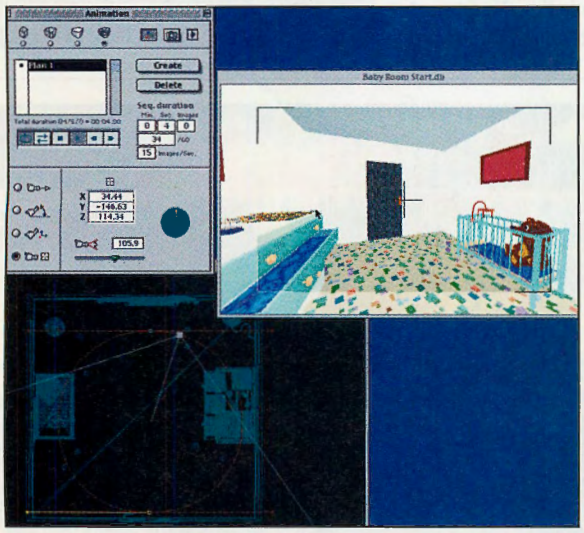
Art•lantis 4

design & graphics

Company: Abvent
Contact: 800-452-9241, www.abvent.com
Price: $495 (SRP)
Requirements: Power Mac, Mac OS 8.5 or later, 64MB RAM, 50MB free hard disk space, QuickTime 4.0 or later, CD-ROM drive

High-end features, such as depth of field, allowed us to adjust the camera's focus for an extra touch of photo-realism.

Art•lantis 4 is the type of software you might not know exists until you need its capabilities. Best described as a finishing tool for 3D creations, Art•lantis can make models and animations more lifelike, letting you add photo-realistic effects to your 3D handiwork for professional results. It's ideal for architects, product designers, game developers, animators, and others working in the virtual-reality (VR) arena.



Although you can find many of Art•lantis's features in other 3D tools, you'll be hard pressed to find its equal in focus or depth. Art•lantis is not a 3D modeling tool—it's more of a rendering and VR-creation tool, taking models designed in other 3D software packages to the next level of realism. You can add and manipulate lights, shaders, textures, air quality, shadows, transparencies, depth of field, time of day, and just about any other attribute to make your world visually lifelike.

The program's best aspect is its ease of use. From altering the finest texture detail to setting advanced lighting schemes, nothing in its interface is off limits to beginners. The manual's tutorials make it easy to jump into any feature. In a matter of minutes, you can create high-level effects like a pro.

The animation features are somewhat limited but easy to use—and surprisingly versatile for walkthroughs.

Advanced users will appreciate the expert controls for precision work.

What's even more rewarding is Art•lantis's real-time previews, which eliminate the need for test rendering. This is particularly useful when you're experimenting with the overwhelming variety of included effects.

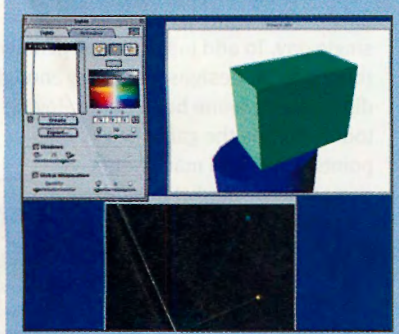
One minor drawback is Art•lantis's limited support of direct importing for some 3D formats, such as LightWave and Maya. Luckily, these programs can output translated files (such as 3DS or DXF), which you can then import into Art•lantis.

Art•lantis does, however, support plenty of output formats, including VectorWorks, Amapi, formZ, and Electric Image, as well as QTVR and RealSpace. It can also output files in many popular formats, including TIFF, PICT, AVI, QuickTime, VR Object, and others.

If your 3D designs look more plastic than lifelike, Abvent's Art•lantis may be your ticket to a VR makeover.
—Patrick Baggatta

good news: Supereasy to learn and use. Surprisingly versatile.
bad news: Limited import support.

Importing and Mapping a 3D File



Import a 3D model by selecting Open from the File menu. To add light, select Edit Lights from the Windows menu, choose the type of light, and adjust its parameters using the intuitive controls.

To add a texture, select Edit Shaders from the Windows menu and click the Apply Texture button in the resultant window. Click Create to import a graphic you want to use as a texture, then adjust the scale color, placement, and repetition via the simple controls.

LabelWriter 330 Turbo

hardware

Company: Dymo
Contact: 800-426-7827, www.dymo.com
Price: $289.95 (SRP)
Requirements: Power Mac, Mac OS 8.6–9.x, 64MB RAM, 10MB free hard disk space, 2X CD-ROM drive

The wicked-fast Dymo LabelWriter 330 Turbo prints labels that won't smear in your clammy hands.

PHOTOGRAPH BY W. B. JONES

Loading labels into a standard laser or inkjet printer is a pain—we usually end up wasting half the labels just trying to get the alignment right. There's no need to worry any longer—the Dymo LabelWriter 330 Turbo is the be-all and end-all of monochrome label printers.

The 330 Turbo prints labels wicked fast—even our most complex design printed in 2 seconds. Plus, its waterproof thermal technology means you can get your label wet and rub it all you want, and the printing will remain legible—unlike inkjet-printed labels, which smear and run. This ensures that the post office can deliver your packages—or at least read the addresses—through rain, sleet, and snow.

The printer is a compact little thing but can accommodate a variety of styles, from standard shipping labels to videotape-spine or Zip-drive labels. Loading new labels is easy—the LabelWriter aligns them automatically for perfect output.

One of the best features is Dymo's software, which comes preloaded with the correct sizes for over a dozen kinds of labels. It can also pull labeling information from other applications such as Microsoft Word, Microsoft Outlook, and the Palm Desktop.

The LabelWriter features both USB and serial interfaces. Plug in the device, install the software, and you're ready to go.

The only bad thing we can say about this printer is that it's pricey. At $290, we could buy three cheap inkjet printers. Still, its features—especially the thermal output—make it a worthy candidate. If you print labels day in and day out, this is the printer for you.

—Rick Sanchez

good news: Fast printing. Water-safe output.
bad news: One word—expensive!

Diablo II: Lord of Destruction

fun & games

Company: Blizzard Entertainment
Contact: 800-953-7669, www.blizzard.com
Price: $34.95 (SRP)
Requirements: Full version of Diablo II, G3 or faster Mac, Mac OS 8.1 or later, 64MB RAM, 800MB free hard drive space, 800 by 600 display, 4X CD-ROM drive

As a Druid, you can summon the elements to kill the bad guys for you.

We gave the original Diablo II a *Freakin' Awesome* (*Reviews*, Oct/00, p48), and its retail success should pave a similar road for Blizzard's new expansion set, Lord of Destruction. What makes this add-on compelling is that its gameplay improves upon the original and is more addictive than ever—you get two new character classes, a new story chapter, and updated features.

You have the option of playing an Assassin or a Druid, or any of the original character classes. While the Assassin, with her martial-arts moves and new weapons, is a nice addition, the Druid class *really* makes the expansion worthwhile. A Druid can summon forces to do the dirty work and can transform into an animal, such as a bear or wolf.

The expansion adds another chapter to an already gripping story and gives past players the opportunity to learn higher-level skills. This set also offers some improvements—a larger inventory stash, new charms (to increase your luck), and new weapons. The engine also supports a higher 800 by 600 screen resolution.

Unfortunately, you need the original program to play the expansion pack—that's expensive when you add it up. In terms of sheer entertainment value, though, Lord of Destruction is worth every penny.

—Andrew Tokuda

good news: New characters kick ass. Added features improve upon the original. **bad news:** This game's addictiveness will once again drain away a good portion of your life.

Nikon Coolpix 995

PHOTOGRAPH BY W. B. JONES

hardware

Company: Nikon
Contact: 800-645-6687, www.nikonusa.com
Price: $899 (SRP)
Requirements: Power Mac with built-in USB port, Mac OS 8.6 or later

A great camera gets even better.

Nikon released its Coolpix 990 digital camera last year to great acclaim, and justifiably so. Experienced photographers loved the device's manual adjustability and its similarities to popular Nikon 35mm SLRs. Best of all, the 990 produced beautiful digital images, provoking inevitable comparisons to the inferior output of most other consumer digicams.

The Coolpix 995 picks up where the venerable 990 left off, addressing some of its predecessor's drawbacks and improving performance overall. This is an excellent consumer-oriented digital camera, among the cream of the 3-megapixel crop (3.34, to be exact). Like its predecessor, it delivers top-notch, sharp images with excellent detail and natural color.

That said, the 995 is by no means a major overhaul, and the upcoming 4-megapixel models of a few competitors (including Sony, Toshiba, and Olympus) will likely overshadow it. However, a digital camera is more than just the sum of its pixel count. Unless you're in the business of publishing or selling enormous enlargements, a 3-megapixel camera should answer most of your needs.

Although the 995's plethora of buttons and menu functions might seem daunting at first, they are logically laid out and intuitive for any photographer familiar with Nikon SLRs. The camera's greatest strength is the degree of manual control these buttons afford—on par with that of pricier digital SLRs. Other features include a full range of exposure and metering modes, manual focus and five-area autofocus, and in-camera sharpness and contrast control.

So what's new? For one, Nikon has replaced the 990's respectable 3X zoom with a more impressive 4X zoom lens (equivalent to a 38mm to 152mm lens on a 35mm camera), keeping the camera competitive with some larger-zoom models. Another difference is the pop-up flash—it's less likely than the previous model's built-in flash to produce red-eye in subjects.

Taking a cue from the competition, Nikon has also newly outfitted the 995 with a color saturation control, from +1 down to −2. Interestingly, the +1 setting produced images that looked more natural than saturated. Although most Coolpix 995 users will probably manipulate their images in Photoshop, we wondered why Nikon didn't include the option of more-saturated color.

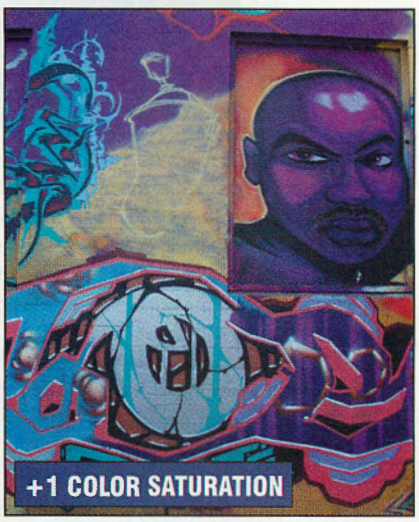
Also new is a white-balance bracketing feature, which records three files for each shot, including slightly warmer- and colder-toned versions of the white balance you've selected—a nifty feature if you're trying to get just the right tone and don't want to do much post-processing in Photoshop.

PHOTOGRAPH BY MICHAEL SHAPIRO

The 995's macro mode is great, providing sharp images from distances as close as 2cm.

The 995 also includes a Lilon rechargeable battery, which performed very well in our tests, as well as a charger. The camera also now accepts CompactFlash Type II memory cards (16MB CompactFlash card included), though it still doesn't officially support IBM Microdrive media (use 'em at your own risk). For low-light shots, a new noise-reduction (NR) mode came in handy during long exposures, as did the ISO 800 (35mm equivalent) upgrade. Though we liked the convenience, the NR mode resulted in fairly noisy images—it's designed for long exposures, not for shooting at a high ISO.

The new features are all welcome improvements to an already impressive camera line. If you need a top-notch camera, the Coolpix 995 is worth the investment.—*Michael Shapiro*



PHOTOGRAPHY BY MICHAEL SHAPIRO

The 995's new color-saturation control displays a difference, but not a great one across its range.

good news: Top-of-the-line image quality. Fully adjustable camera controls. **bad news:** Complex interface. Expensive.

Tomb Raider Chronicles

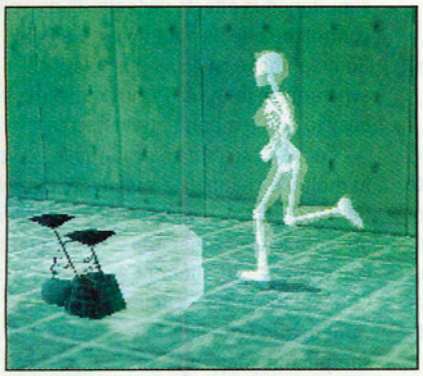
fun & games

Company: Aspyr Media/Westlake Interactive/Eidos
Contact: 512-708-8100, www.aspyr.com
Price: $44.95 (SRP)
Requirements: 266MHz G3 or faster, Mac OS 8.6 or later, 32MB RAM (64MB recommended), 300MB free hard disk space, OpenGL hardware accelerator, QuickTime 3.0 or later, 4X CD-ROM drive

Lara can run and strafe thanks to her useful autoaim feature, but occasionally discretion is a better tactic.

Find a Tomb Raider Chronicles demo on The Disc.

You have to hand it to Eidos—it really knows how to milk its absurdly busty franchise. Just when we thought Lara Croft might fade into retirement, along comes the blockbuster movie to prove there's life in the old girl yet—as does this game...well, kind of.



Don't worry, Lara hasn't gone on a crash diet—it's just a security system.

Tomb Raider Chronicles' obvious flaw is that despite its nearly 10-year lifespan, the game engine hasn't radically changed. The textures look better, but fundamentally little else is different. Lara still stands statuesquely in the center of the screen and still runs and turns like a Golden Girl on Valium. The game's syrupy slow-mo pace is still intact and still infuriating. And Tomb Raider Chronicles retains the irritating rotate function, where you must turn Lara ponderously to face a desired direction before you can make her walk or run—this caused us to miss our targets.

Tomb Raider Chronicles has lots of new moves, environments, and accessories, but the biggest change is the emphasis on stealth. Many of the puzzles and obstacles Lara faces require discretion and quiet rather than her typical reliance on John Woo–style gun battles.

Chronicles also pays attention to plot, rather than simply catapulting our heroine into danger. The entire story line consists of a series of recollections by Lara's friends, who have gathered at the Croft estate—Lara is missing and presumed dead. This allows for a variety of missions (four separate tales), and since the stories are anecdotes, they don't follow in a linear, predictable fashion.

Lara Croft's new moves are fairly entertaining. She can perform a tightrope walk (it's amazing how often ropes bridge chasms in the Tomb Raider world). To cross one, just walk—if Lara starts to lose her balance, compensate by moving her left or right. With the parallel-bar obstacle, Lara instinctively spins around and dismounts with catlike grace. Lara also sports a deep-sea diving rig, complete with chaff-like decoys to draw torpedo fire, and can command a number of other vehicles.

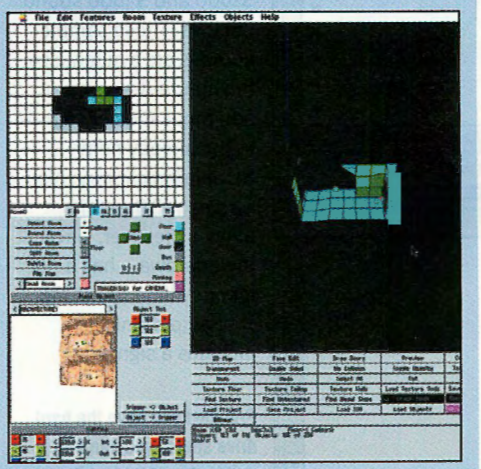
The environments and architecture are more compelling, with less of the pointless meandering that hampered earlier games. It's not perfect—you can get lost on plenty of occasions, even in a confining submarine. Other locales include the Roman Coliseum, the Pyramids, and even an Irish moor.

As far as Tomb Raider goes, Chronicles has the best graphics, the greatest variety of gameplay, and the most appealing scenarios to date. But compared with the rapid development of superior titles like Oni and Deus Ex, Tomb Raider's snail-paced evolution disappoints us, making it hard to recommend the game wholeheartedly.
—Frank O'Connor

Make Your Own Adventure

If you're game to design your own adventure, Chronicles includes a nifty Level editor. Although the interface is somewhat clumsy, the editor allows you to create some pretty complex levels, complete with scripted events, using assets from other game levels. It's not exactly drag and drop, but the interface is flexible enough so you can get a level up and running in a couple of hours (be patient).

You load textures and objects from a list and manipulate them on a grid. When you're working with big, open-plan areas, editing is a breeze; with complex and 3D regions, it's easy to get mired in the ugly GUI. That said, it doesn't cost nothin'.



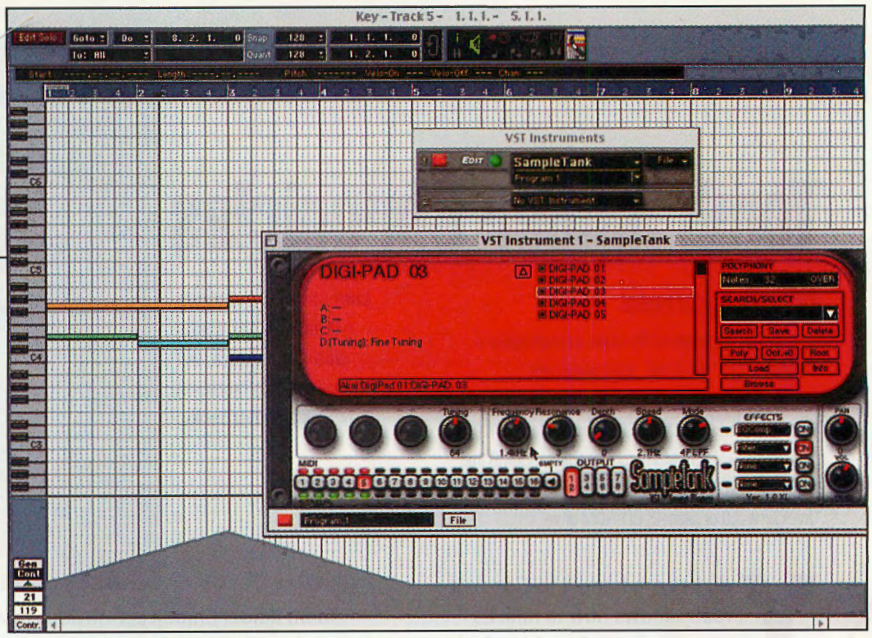
The interface looks primitive but is remarkably flexible, outputting fairly complex levels.

good news: The best Tomb Raider yet, with an enhanced engine, more variety, and a better plot. **bad news:** The series hasn't progressed to keep up with the rest of the game industry.

SampleTank XL

audio & music

Company: IK Multimedia
Contact: 866-243-1718, www.sampletank.com
Price: $499 (SRP)
Requirements: 200MHz Power Mac 604 or faster, Mac OS 8.5–9.1, 64MB RAM, 240MB free hard disk space, VST-compatible sequencing application
Recommended: G3 or faster Mac, 128MB RAM, 2GB free hard disk space, ASIO audio card



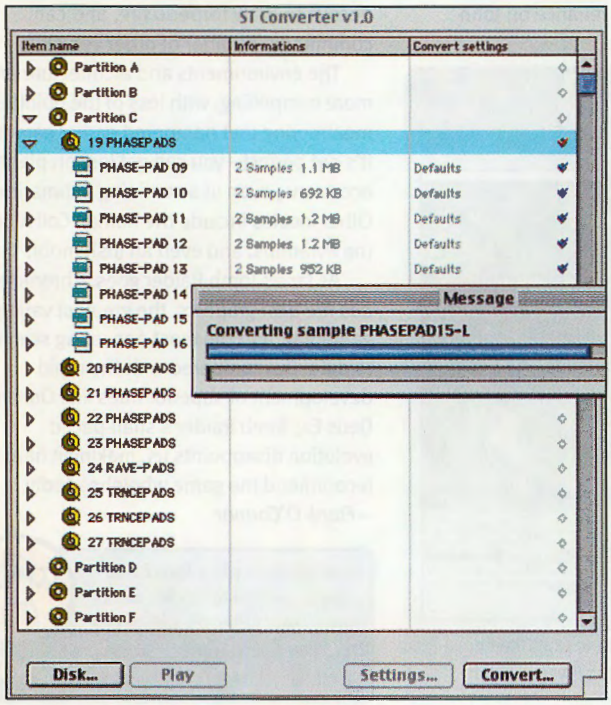
That mountainlike shape at the bottom controls the movement of the Frequency knob to give you a filter sweep worthy of any rave tune.

Find a SampleTank demo on The Disc.

Having SampleTank on your Mac is almost like owning a $1,500 hardware sampler without sacrificing space or putting up with the mess of audio and MIDI cables. The program comes with a substantial truckload of quality sounds—from pianos to drum loops to sound effects. Though $499 seems like a lot of money, if an expensive hardware sampler isn't on your investment horizon, SampleTank may work for you.

Software samplers aren't new. Programs like BitHeadz's Unity DS-1 ($449, www.bitheadz.com) allow you to run a virtual sampler on your computer. However, artists who work with MIDI and digital audio deem VST (virtual studio technology) an invaluable tool, allowing them to add audio effects and play virtual instruments within a single application. Unlike Unity, which requires synchronization with your MIDI or digital-audio app through router software such as ReWire, SampleTank runs *within* your sequencing app—which means easier setup and fewer hassles in using it.

The program comes with over 2.5GB of sounds for just about every style of music. Many of the samples are velocity sensitive, so you can control the dynamics with a harder or softer touch on your MIDI keyboard. We love "Santana" (the SampleTank sound—and the man, too). Press the keys lightly and you hear a smooth, gentle guitar tone. Hit it hard, and you can almost feel the guitar pick digging into the strings.



Provided you have the hard drive space, you can add a multitude of high-quality Akai samples using the SampleTank converter.

SampleTank's best feature is its sample converter, which allows Akai users to import S1000 and S3000 sound libraries. These sample libraries are available by the hundreds—you can add thousands of sounds to the already hefty SampleTank library. Akai owners will find this utility a lifesaver, since their hardware has a memory limit of 256MB.

SampleTank also includes a signal processor, which lets you add reverb, flange, and filtering to samples (up to four simultaneous effects per sound), as well as control the effects parameters via MIDI. Some of these, such as the delay, synchronize to the MIDI clock, making it easy to add tempo-related effects.

Cubase can route SampleTank's output to multiple channels—four stereo outputs per module, to be exact, giving Cubase an advantage over other apps. This is great if you want to add different VST effects (from Cubase) to sounds. For instance, if you want to add Cubase's Reverb-32 to a flute sample but keep the bass dry, you can route the bass to stereo channels 1 and 2 without VST effects, and route the flute to channels 3 and 4 with the Reverb-32 effect. If you need more outputs, just add another SampleTank module to the VST Instruments list.

Unfortunately, SampleTank is not as versatile as a true sampler or Unity. You can't edit basic sample parameters, such as key and velocity mapping, or loop points. Though its advantages over Unity—its VST integration and sheer number of preloaded sounds—are a plus, its lack of versatility and its price put it one step behind. If IK Multimedia adds basic editing features to make SampleTank a *true* virtual sampler, the company will have a winner on its hands.—*Andrew Tokuda*

good news: High-quality samples. Imports Akai S1000 and S3000 sample libraries. Real-time control of parameters. **bad news:** Expensive. No editing capabilities.

Expression 1680 Professional Firewire

hardware

Company: Epson
Contact: 800-922-8911, www.epson.com
Price: $1,399 (SRP)
Requirements: Power Mac, Mac OS 8.0 or later (requires 8.5 or later for USB, 8.6 or later for FireWire)

PHOTOGRAPH BY W. B. JONES

The Expression 1680 stacks up as one awesome scanner with radical resolution.

In an age when the price of the average scanner has fallen well below $300, the Epson Expression 1680 is an anomaly. Geared for pros, the fully configured Professional Firewire model checks in at nearly $1,400. Even competing pro scanners of the same caliber cost a mere $900. What, you might ask, could possibly justify paying this much for a scanner?

The simple answer: the specs. The Expression 1680's commanding 1,600-by-3,200-dpi optical resolution lets it scan fine details normally lost in the interpolation process of inferior scanners. The 1680 comes equipped to connect via FireWire, USB, or SCSI. It also scans 48-bit color and can send images at that color depth straight to Photoshop through the TWAIN Pro driver.

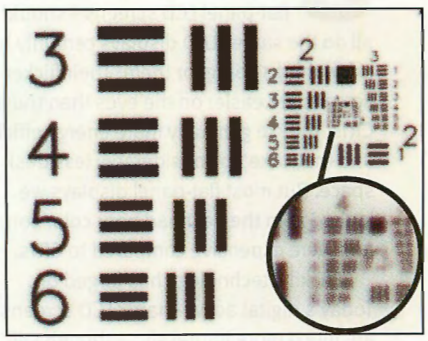
The included Epson TWAIN Pro software is supreme—it's versatile, easy to use, and incredibly powerful. It also allows batch scanning, which you can use to identify several regions you want to scan. The scanner scans each region in turn—particularly important when you're using the transparency adapters. By eschewing overly clever terms like "Internet Scan" found in other scanning software in favor of more straightforward terms like "72dpi," TWAIN Pro makes it easy to get the right resolution on the first try.

The 1680 does a remarkable job of crisply scanning small details, like the wrinkles and paper fibers in this dog-eared textbook.

The Expression 1680 Professional Firewire ships with transparency support and adapters (an option for lower-end models). The adapters (similar to those shipped with Epson professional scanners in the past) are an exemplary example of what transparency adapters should be—they are easy to install and extremely versatile, and they work well. The four adapters come with trays to support everything from 35mm slides and negatives to 4 by 5 transparencies. The trays hold slides at equal distances from one another, making it easy to use TWAIN Pro's batch feature to scan every frame. While 1,600 by 3,200 resolution is quite hefty by flatbed standards, it's barely acceptable for slide scans, so don't toss out that dedicated slide scanner just yet.

The 1680's extreme scan quality comes at a certain cost in speed—even with FireWire. The 1680 scanned a 3-by-5-inch image at 600 dpi in 26 seconds through FireWire, versus 36 seconds via USB. As we increased the resolution of our scans, the FireWire scans continued to take about two-thirds as much time as USB scans (397 seconds for FireWire instead of 607 seconds for USB at 2,400 dpi, for example).

As with many scanners, photographs seemed to scan in a bit dark when we used the default settings. We were able to get some outstanding scans, however, by fiddling with the settings. Line art scanned with almost ridiculous crispness.

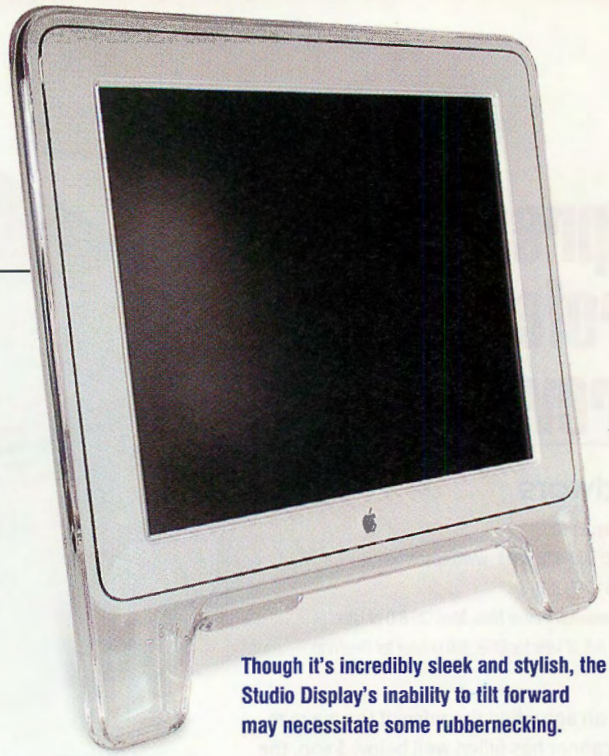


As you'd expect from a 1,600-by-3,200-dpi scanner, you can distinguish the lines of this standard test target (shown at actual size) all the way down to the tiny group 4.

The Expression 1680 Professional Firewire is a pro's scanner, and it shows. While amateur artists are probably better served by cheaper FireWire scanners like Umax's or svelte USB models like Canon's, Epson continues to make quality high-end scanners that are must-haves for graphics experts.—*Ian Sammis*

good news: Insanely high resolution. Excellent transparency adapters. **bad news:** Won't replace a slide scanner. Expensive.

Flat-Panel Roundup



Though it's incredibly sleek and stylish, the Studio Display's inability to tilt forward may necessitate some rubbernecking.

PHOTOGRAPHY BY THE INSTUPITUOUS W. B. JONES

hardware

17-Inch Studio Display

Company: Apple
Contact: 800-692-7753, www.apple.com
Price: $999 (SRP)
Requirements: Apple Display Connector (ADC)–compatible G4, or Digital Video Interface (DVI)–based Mac with appropriate ADC-to-DVI adapter

photon18blue

Company: LaCie
Contact: 800-288-9919, www.lacie.com
Price: $1,999 (SRP)
Requirements: Analog VGA 15-pin or DVI-based Mac, or ADC-based Mac with DVI-to-ADC adapter

LL-T180A

Company: Sharp
Contact: 800-237-4277, www.sharp-usa.com
Price: $1,199 (SRP)
Requirements: DVI-based Mac

Steve Jobs and company have abandoned CRT monitors in favor of flat-panel LCD screens—should we all do the same? LCD displays certainly have a few things going for them: Their flicker-free screens are easier on the eyes than those of CRTs, they're generally more energy efficient, and they take up considerably less desk space. But most flat-panel displays we looked at in the past had poor color contrast and were expensive compared to CRTs.

Luckily, technology has forged on. Today's digital active-matrix LCD screens are much more impressive—though still expensive. If you suffer from stare-at-your-screen-all-day eyestrain or if your desktop real estate could stand to gain some acreage, LCD is the way to go. Here are three displays to consider. In evaluating them, we set each to use its own color profile in ColorSync, and we displayed identical documents and Web sites on them all.

Apple 17-Inch Studio Display

The 17-inch Studio Display is the latest addition to Apple's family of flat-panel monitors (joining the 15-inch Studio Display and the 22-inch Cinema Display). Though its antiglare screen is an inch smaller than those of the other two flat panels we reviewed, with a maximum 1,280 by 1,024 resolution it doesn't suffer from size envy—and it's the least expensive of the lot. This display, in our opinion, is the coolest-looking of the group with its translucent polycarbonate frame and sexy curves. It also features two touch-sensitive controls (an on-off button and a one-touch control to open the Monitors control panel) and two USB ports on the back.

Photos display vibrant, rich color, but tend toward oversaturation. Though this won't concern most folks, those who work in color-critical print-publishing professions may need to tweak their color adjustments accordingly. The Studio's color range is excellent, producing true blacks and crisp whites from a brightly lit screen that remains clearly visible even when viewed from sharp angles. Text is easy to read, both in Word documents and on Web sites.

We have only two minor beefs with the Studio Display. First, the easel-style back and rubber-soled feet make turning the monitor (should you want to do so) a bumpy affair, and they don't allow any forward tilting of the screen—if you have a high desk or you're very short, you can't tilt the Studio Display forward to compensate. Second, if you don't own one of Apple's newer G4s with an ADC connection, you'll need to part with $150 to get an ADC-to-DVI adapter. Still, for its beautifully clear and vibrant display, its small footprint, and its price, this is one display we highly recommend.

LaCie photon18blue

We absolutely love LaCie's photon18blue, as will any hard-core graphics pro. Not only is this 18-inch–viewable monitor pretty to look at, it offers an equally stunning display.

Raise the photon18blue's back pedestal and give the screen a whirl if you want full-view portrait shots.

For color-intensive graphics work, LaCie's photon18blue is top notch.

The Sharp LL-T1810A's rich color and hidden compartments would do James Bond proud—but it falls short in other areas.

What makes the photon18blue really stand out is its pivotal frame, which allows you to raise the pedestal and flip the standard horizontal (landscape) orientation to a vertical (portrait) one—an option any photo editor will greatly appreciate. The drawback is its price. But if you happen to work in the color-intensive graphics industry, this monitor is worth every penny.

The photon18blue features a maximum resolution of 1,280 by 1,024 and an antiglare flat display, and sports a blue-black exterior that keeps eyes trained on the screen instead of wandering to its periphery. It also comes with a detachable hood that effectively cuts down on reflections, keeping color true and freeing your display of ambient-light discrepancies. On the front you'll find easy-to-use pushbutton controls for fine-tuning the display, and the back hinge gives tilt control for a custom view.

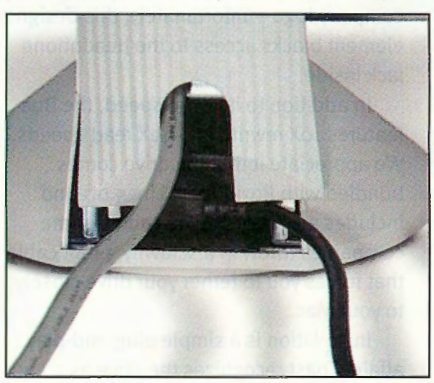
We found the photon18blue to be the best of the bunch colorwise. Photos display beautifully across the screen—colors are rich (not washed out), blacks are indeed black, and color accuracy is on target. When we printed photos and compared them to their digitally displayed counterparts, the level of consistency impressed us. Text is also crisp, whether you're viewing Word documents or Web pages, and readable even when you're standing and viewing the screen at an angle (watch out for snooping coworkers).

Other than its (gulp!) price, we couldn't find anything *not* to like about the photon18blue. If true color is of the utmost importance to your sanity, this flat panel is sure to cure your color conundrums.

Sharp LL-T1810A

We were eager to eyeball our work on Sharp's 18-inch LCD flat panel after the kind folks at Sharp gave us a demonstration. But after working with it for a few weeks and comparing it to the other displays, we found it fell short of the competition. The LL-T1810A displays brilliant color, but in some of our photos it tended to dither certain colors (yellows and to some extent reds)—this dithering was apparent in all supported resolutions set to millions of colors. Other photos that didn't feature vivid yellow or red areas displayed beautifully, though not quite accurately.

The LL-T1810A features a maximum 1,280 by 1,024 resolution, a proprietary antiglare screen, and button controls on the front for adjusting the display. The cleverly designed pedestal base has concealed compartments to stow the bulky AC power brick and extra cord length, and features a small hole where you can snake out the power plug cleanly—a great idea that would have worked if Sharp had included a straight plug instead of a right-angle one, which makes replacing the back cover an impossibility. Hopefully, Sharp will be shipping the monitor with the right plugs by the time you read this.



Uh...a little oversight? The included right-angle plug makes it impossible to conceal the power brick with the back cover on the LL-T1810A.

We found text smooth and easy to read in Word documents, but a hit-and-miss affair on Web pages, where smaller-point text made us go cross-eyed and certain fonts, though legible, bled into the background or sported fuzzy serifs. The screen also exhibited some noise. However, like the other two monitors, this display allows wide-angle viewing.

In the end, the price deals the LL-T1810A its final blow. At a lower price, we might have forgiven some of this display's flaws. But at $1,200, we found them harder to ignore than a PC devotee at Macworld Expo.—*Kris Fong*

17-Inch Studio Display

good news: Rich color. Sharp text. Snazzy exterior. Good price.
bad news: Requires investing in an adapter if you don't have a new ADC-equipped G4.

photon18blue

good news: Excellent, crisp display. Rich color. Portrait mode great for photo retouchers. **bad news:** Will drain your bank account.

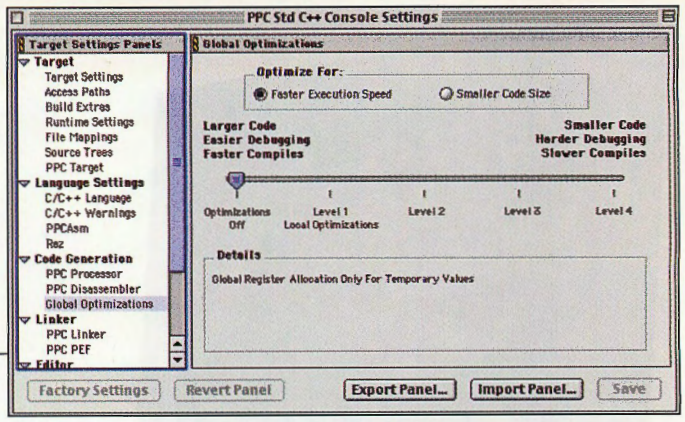
LL-T1810A

good news: Great color range.
bad news: Some noise and dithering. Text a bit fuzzy.

CodeWarrior Learning Edition 2.0

development

Company: Metrowerks
Contact: 800-377-5416, www.metrowerks.com
Price: $49 (SRP)
Requirements: Power Mac, Mac OS 8.6 or later, 64MB RAM, 380MB free hard disk space



Since you can't optimize your code in CLE, the Global Optimizations slider remains stuck in the Off position.

Many would-be programmers are stymied by the difficulty of finding a compiler and learning a programming language. While Mac OS X helps solve the former problem (a version of the GNU compiler comes on OS X's Developer Tools disc), the latter remains tricky. Metrowerks has stepped up to the plate with the CodeWarrior Learning Edition (CLE) compiler, plus a free, nifty online set of programming classes called CodeWarrior U (www.codewarrioru.com). While ambitious programmers will outgrow CLE, the compiler is solid enough for neophytes.

CLE is a limited version of Metrowerks' CodeWarrior Pro compiler. For novices, the limitations are irrelevant. CLE's compiler won't let you optimize code, develop across platforms, generate shared libraries, use more than 32 files in any project, or distribute software you create.

The accompanying tutorial is the poorest excuse for a tutorial we've seen—it's geared toward Windows users, and it either glosses over or ignores entirely many variances between CLE's Windows and Mac versions.

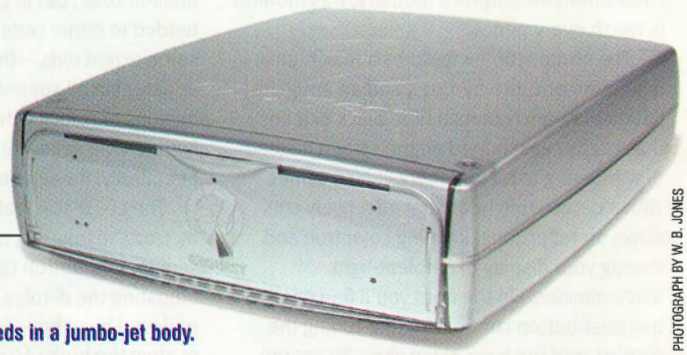
Still, the $49 is justifiable if you think of it as your pledge to the usefulness of CodeWarrior U, Metrowerk's online programming education site. This is an astonishing resource for beginning programmers, providing helpful classes for use with CLE or CodeWarrior. CLE is worth buying just to take advantage of CodeWarrior U's wealth of support.—*Ian Sammis*

good news: Inexpensive.
bad news: No programming lessons included. Accompanying tutorial is abysmal.

Boa FireWire CD-RW

hardware

Company: EZQuest
Contact: 714-694-0031, www.ezq.com
Price: $369.95 (SRP)
Requirements: Power Mac, Mac OS 8.6 or later



PHOTOGRAPH BY W. B. JONES

The Boa boasts jet speeds in a jumbo-jet body.

We're twiddling our thumbs...not because we're waiting for the Boa FireWire CD-RW to finish burning our collection of CDs, but because we can't find anything to do with the extra time its quickness has gifted us. We're not kidding—with its 24X write speed, the Boa recorded some of our CDs in less time than it took to peel off their cellophane wrappers. And it burned data without a hitch.

Like a 747 jumbo jet, the Boa has a *huge* outer casing (the drive inside is considerably smaller). It houses two FireWire ports, stereo RCA outs, an on-off switch, a volume control, and a headphone jack. The drive door features an interesting open button that's integrated into the company logo—unfortunately, this design element blocks access to the headphone jack inside.

In addition to its write speed, the Boa features 10X rewrite and 40X read speeds. We appreciate it that the drive comes bundled with Roxio Toast Lite 5.0.1 and includes a 6-foot FireWire cable—some companies throw in a scrawny 3-foot cable that forces you to tether your drive closely to your Mac.

Installation is a simple plug-and-play affair—Toast recognizes the drive as a generic FireWire drive, which in no way impedes performance. Burn times are impressive—we recorded 646.7MB of data onto a CD in 4 minutes and 6 seconds. A 432.1MB audio CD-to-CD recording clocked in at 3 minutes and 29 seconds. With standard and multisession burns, the Boa performed flawlessly—chalk this up to its Burn-Proof technology, which helped ensure that our CDs didn't wind up as throwaway coasters.

The Boa's audible and constantly blowing fan may annoy those who thrive on silence. Still, we'll gladly overlook this minor flaw—for sheer speed and reliability, this device can't be beat.—*Kris Fong*

good news: *Fast!* Consistent. Includes Toast Lite 5. **bad news:** Big body. Fan noise may annoy some.

Jurassic Park III Dino Defender and Danger Zone

kids' stuff

Company: Knowledge Adventure
Contact: 800-542-4240, www.knowledgeadventure.com
Price: $29.95 each (SRP)
Requirements: G3 or faster Mac, Mac OS 8.1 or later, 64MB RAM, 30MB free hard disk space, 24X CD-ROM drive

Danger Zone's gameplay is board based. When you land on a square, a minigame launches.

Find Jurassic Park III demos on The Disc.

Chances are most kids have played good dinosaur games if they have a PlayStation or Dreamcast console. Putting ourselves vicariously into the mindset of an 8-year-old, we gave Dino Defender and Danger Zone a try—and came to the conclusion that without the *Jurassic Park* tie-ins, these games probably wouldn't even have made it into production.

Dino Defender is your standard side-scroller game geared toward ages 8 and up. The premise: Dinosaurs are running rampant through Jurassic Park after a typhoon knocks down the electric fences. Your task is to capture the dinos by setting traps or sedating them before they destroy each other. The game contains six levels and a number of puzzles, some tricky. The real feat is to avoid winding up in some dinosaur's intestinal tract.

Much of the gameplay is unnecessarily difficult or just plain tedious. In some areas, expect to die at least eight or nine times before you get a sense of how the level is laid out. Fortunately, when you die, you respawn at the last checkpoint.

If the game offered more educational value, Dino Defender might merit some consideration for folks who want their kids to take a break from fragging and fighting. But the educational aspects consist of token visuals and a vague preservationist bent (trapping and sedating dinos instead of filling 'em with lead). In spite of well-done visuals—particularly in the between-level cut scenes—and compelling voice-overs, Dino Defender ultimately seems like a thinly veiled attempt to cash in on kids' passion for all things Jurassic.

Danger Zone is presented as a board game where players circle around Jurassic Park, attempting to snare samples of dino DNA (the game features one- and two-player options). Grab the required amount of DNA, get to the lab, and you win. Interestingly enough, the game is rated for ages 7 and above—maybe because, unlike Dino Defender, it doesn't contain a gruesome death at the claws of a raptor every 30 seconds, which (Knowledge assumes) 8-year-olds are better equipped to handle.

Danger Zone is best played against another human, as the computer opponent will mercilessly beat the snot out of you. (It cheats!) Most of the board's squares provide a minigame upon landing—a fighting game, a puzzle, or a platform game (conveniently recycled from Dino Defender). Some squares provide power-ups or an option out of a minigame, while others keep you trapped until you spin a certain number or pay your way with points.

Once you collect your DNA quota and reach the lab, you're treated to a cool movie sequence showing robotic arms incubating a dino egg that has miraculously spawned from your collected DNA. The game does have some educational value—it tests your ability to recognize dinosaur characteristics and match them with flashing clues. Unfortunately, most of the minigames grow tiresome, making us want to zone out of Danger Zone altogether.—*Paul Yoon*

My, what big teeth you have...

Don't worry, these herbivores aren't interested in chowing down on your skinny Dino Defender ass.

Jurassic Park III Dino Defender

good news: Cool, well-rendered cut scenes. Dinosaurs! Enthusiastic voice acting. **bad news:** Tedious gameplay. Debatable educational value. Gratuitous Tie-in Fu.

Jurassic Park III Danger Zone

good news: Multiplayer action. Some modicum of variety.
bad news: Monotonous minigames. Computer cheats in one-player games.

Canon ZR30 MC

hardware

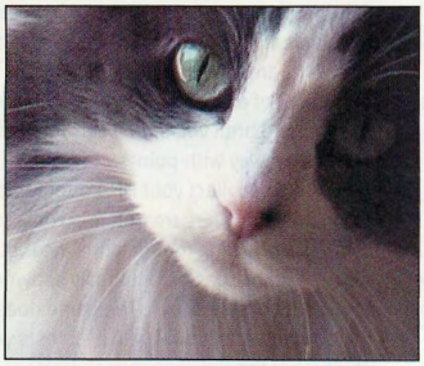
Company: Canon
Contact: 800-652-2666, www.canondv.com
Price: $999 (SRP)
Requirements: FireWire-equipped Mac, or TV, or VCR with RCA connectors

PHOTOGRAPH BY W. B. JONES

Though it's admirably compact, the ZR30 MC comes up a bit short in compatibility.

To Steve Jobs, a thousand bucks is chump change found in last week's pants pocket. For the rest of us, dishing out a thousand big ones requires careful thought and major pro-and-con analysis. You can buy a Canon ZR30 MC DV camera for this lump sum, but after much scrutiny, we've decided that although the ZR30 MC comes oh so close, it doesn't quite snag our thumbs-up.

The problem with the ZR30 is its video quality—it would work fine if the world was one bright, happy place filled with sunlight and evenly lit rooms. Unfortunately, it's not, and the camera has trouble exposing scenes filled with highlights and shadows, especially when you're shooting in automatic-exposure mode (which most dabbling videographers will do). Shadows appear as black expanses, and the camera does a poor job of compensating for low-light situations. Luckily, you can fix some problems via the manual or preset exposure modes—sports, portrait, spotlight, sand and snow, and low light. Sand and snow mode, for example, lightens the foreground, and low-light mode brightens dark scenarios, although it produces footage with a *Dateline* hidden-camera feel.



The autofocus does a good job of focusing on your most precious investment.

We know this is *MacAddict*'s own Andrew Tokuda, but the ZR30's poor exposure forces the rest of you to guess our masked man's identity.

The camera's selling point is its extended-recording feature, which squishes more footage onto a tape in defiance of the time limitation (see "Extended Play," below). Unfortunately, no video-editing application currently supports this technology (apps do support the SP and LP modes). Other features include digital effects such as wipes, fades, and sepia, as well as a 10X optical and 200X digital zoom. On a positive note, the Canon's sound quality is excellent.

The ZR30 can capture digital still photos, too, either to DV tape or on an MMC card—an 8MB card is included. While the quality of the 640 by 480 photos is respectable, you'll have to buy an MMC card reader, such as the SanDisk USB ImageMate ($29.95, www.sandisk.com), if you want to get photos from the card onto your Mac.

The ZR30 is the top model of a three-camera line, which also includes the ZR20 ($799) and the ZR25 MC ($899). The major differences are the MMC card in the two top models and the ZR30's extended-recording feature. The best aspect of these cameras is their small, feather-light bodies (great for those arm-numbing over-the-head shots). However, a cool exterior alone can't buy happiness—or a top rating. Performance matters, and that's where the ZR30 falls a wee bit short.—*Cathy Lu*

good news: Small and lightweight. Packed with cool features. Good sound. **bad news:** Exposure problems. Extended play doesn't work with editing apps.

Extended Play

The ZR30's most-touted feature is extended recording. The device offers standard SP and LP modes, along with extended ESP and ELP modes. Here's a chart of how much footage you can cram onto a 60-minute DV tape.

SPEED	RECORDING TIME
SP	60 minutes
LP	90 minutes
ESP	120 minutes
ELP	180 minutes

Canon accomplishes extended play via image-data compression; you'll notice decreased image quality with slower-speed recording—that's to be expected. What's unexpected (and unfortunate) is that no video-editing app we tested (iMovie, Final Cut Pro, or Premiere) can currently import video recorded in ESP or ELP mode. The only way to capture "extended" footage is to record straight to VHS—but doesn't that defeat the purpose of going DV?

Predator FireWire CD-RW

PHOTOGRAPH BY W. B. JONES

hardware

Company: Iomega
Contact: 800-697-8833, www.iomega.com
Price: $299.95
Requirements: Blue-and-White G3 or faster Mac, Mac OS 8.6–9.1, FireWire port

The Predator lives up to its name—it quickly killed off an entire box of perfectly good CD-Rs.

We like eye candy, but sometimes a product's cool quotient can't cloak its poor performance. Such is the case with Iomega's sleek Predator FireWire CD-RW, a drive that's long on looks but short on reliability—a big disappointment, since this drive, prior to testing, was on our shopping list.

The Predator comes with a detachable FireWire adapter (USB is also available) that plugs into the device's posterior. Though we secured the adapter to the unit, we could easily wiggle the connection in all directions (Iomega told us this is normal).

The FireWire Predator gives you 8X write, 4X rewrite, and 32X read speeds—a snail's pace compared to the competition, but we overlooked this weakness for the sake of its portability. It also flaunts a hypnotic little disc on its cover that spins when you insert a CD, and it comes bundled with Roxio Toast 4.1.2, MusicMatch Jukebox Plus, and MGI PhotoSuite software.

We test-drove two faulty Predators before getting a third that worked like a charm—well, almost. The first two drives failed to copy any CD—audio *or* data—but burned files from our hard drive without incident. The third Predator copied data CDs and burned hard drive–housed files without a hitch at 8X speed (635.6MB took 9 minutes and 42 seconds). However, no audio-CD cloning could be had at this speed. After notching the drive down to 4X write speeds, we met success—along with a 19-minute wait time to burn one 68-minute audio CD.

Though the Predator is a capable drive, only its 4X write speed is reliable, and $300 is too much to pay for 4X speed.—*Kris Fong*

good news: Portable. Great looks.
bad news: Problems with audio CD burns. Comparatively slow. Pricey.

FriendlyNet

PHOTOGRAPH BY W. B. JONES

hardware

Company: Asanté
Contact: 888-491-4067, www.asante.com
Price: $379 (SRP)
Requirements: Mac capable of running a Web browser, Ethernet port, broadband connection

This translucent gray box has the power to keep you Internet connected without wires—even if your ISP uses the annoying PPPoE.

Now that broadband connections are common, as are households with multiple Macs, for many users it makes sense to get a hardware router that will let them share an Internet connection. Although Asanté's FriendlyNet router is a little pricey, it's well worth the money—you get a great basic router, AirPort-compatible connectivity, a print server, a built-in firewall, and a three-port Ethernet hub all in one translucent device.

The FriendlyNet plays nice by supporting various connection methods—DHCP, static IP, and even PPPoE support for any ISP pesky enough to insist on using it. Setup is easy: Plug in the appropriate Ethernet cables, turn on the router, and connect to it via a Web browser. The router easily handled our troublesome Earthlink PPPoE connection.

Although we've pooh-poohed the need for firewalls, we checked the router's log just for fun after leaving it connected to an Earthlink DSL account for a day. To our surprise, our router was the target of several port-sniffing forays. No one got in and no one came back—presumably because the router "stealthed" itself well.

The FriendlyNet, with its 802.11-compatible wireless abilities, works well with Apple's AirPort card. However, it doesn't support encrypting transmissions—a minor security flaw. The router also has a built-in print server that can handle any PostScript-based printer with a parallel port.

While the price is a little steep, you get what you pay for with the Asanté FriendlyNet: a reliable router that's easy to use, works incredibly well, and packs in great features.—*David Reynolds*

good news: Easy to set up. Works flawlessly. Fierce firewall protection.
bad news: Can't use some AirPort features.

C-700 Ultra Zoom

PHOTOGRAPH BY W. B. JONES

The C-700 packs a long lens into a compact digital point-and-shoot.

hardware

Company: Olympus
Contact: 800-622-6372, www.olympusamerica.com
Price: $799 (SRP)
Requirements: Power Mac, Mac OS 8.6 or later, 64MB RAM, 100MB free hard disk space, USB port, CD-ROM drive

The Olympus C-700 Ultra Zoom should carry the label "Objects are much farther away than they appear," especially when you consider that most point-and-shoot cameras can't bring in subjects from far-away distances.

The 2.1-megapixel C-700 features a 10X optical zoom lens (a 38mm to 380mm film equivalent) and a 2.7X digital zoom (the simulated equivalent of up to a 1,026mm lens). Unfortunately, the C-700 compromises on price—you can find other cameras with the same pixel count for less than $500. But if getting up close to take shots poses some obstacles, the C-700 will effectively bring the action to you.

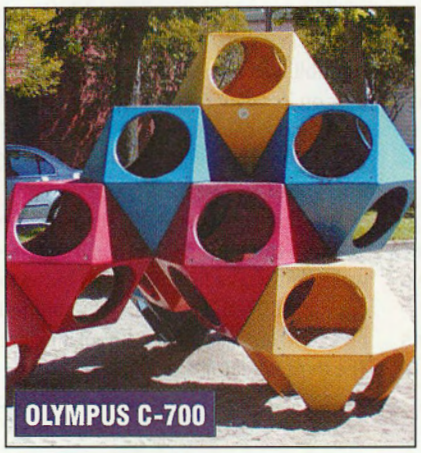
Instead of a traditional optical viewfinder, the C-700 displays an LCD image through its viewfinder (as well as in the 1.5-inch LCD display on the camera's back) to show the true frame—something most digital cameras' viewfinders don't do.

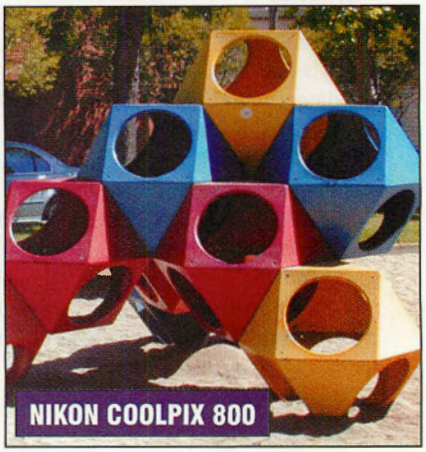
Outdoor shots are a mixed bag—the slow zoom makes it challenging to snare moving subjects, and we saw some chromatic problems in brightly lit scenes. However, the camera captures stationary objects with sharp detail and excellent color accuracy under most circumstances.

The camera offers plenty of tweaking controls—four preset white-balance settings (daylight, overcast, tungsten light, and fluorescent light); a custom one-touch white balance; preset modes for shooting landscapes, portraits, and sports; and programmed, shutter-priority, aperture-priority, and full-manual shooting modes. An included 8MB SmartMedia card holds a handful of pics, however, the aperture range is a bit narrow—*f*-2.8 to *f*-8.0 at wide angle and *f*-3.5 to *f*-8.0 at telephoto.

The two included nonrechargeable lithium batteries (CR-V3) are hardy—after a couple weeks of intermittent shooting, they still had life, but they're expensive to replace at nearly $10 apiece. However, four AA batteries (alkaline or rechargeable) will also work.

The C-700 Ultra Zoom, with its long zoom and sophisticated features, makes it a good alternative to a low-end 3-megapixel model—especially for those who frequently shoot from afar.—*Alan Stafford*



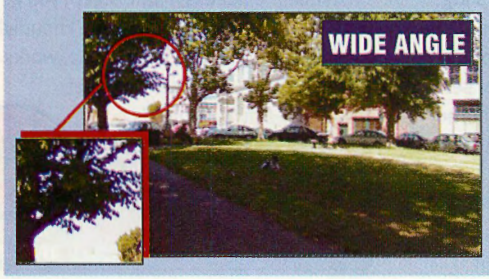


PHOTOGRAPHY BY ALAN STAFFORD

In these shots, the C-700 captured a slightly sharper image than our 2.1-megapixel Nikon Coolpix 800, and it did a better job of differentiating red from orange.

Tricky Lighting? Zoom In for Better Shots

At its widest setting, the C-700 appropriately calculated this exposure based on the light and dark areas in the frame. Unfortunately, it also introduced some purple banding in the back left tree and leaves. With the 10X optical zoom, the C-700 not only brought our lean, mean, Frisbee-fetching machine front and center, but also recalculated the exposure to produce a better, brighter image based on the light in that frame, rather than trying to balance multiple light levels. The fewer varying light levels the camera has to average, the better exposure you'll get.



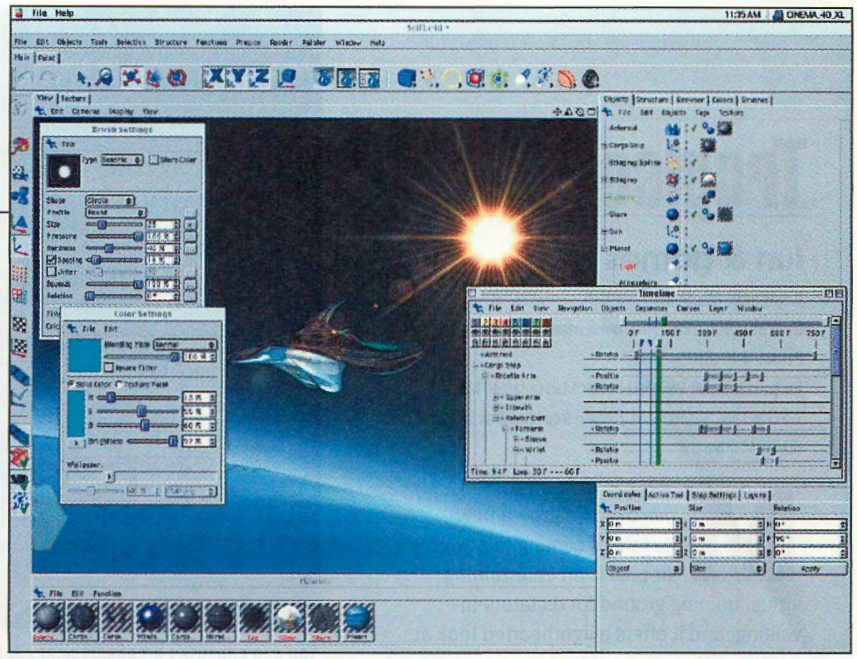
PHOTOGRAPHY BY ALAN STAFFORD

good news: Loooong zoom. Tons of controls. Awesome battery life.
bad news: Low resolution for the money. Slow zoom. Some images display chromatic problems.

Cinema 4D XL 7

multimedia

Company: Maxon
Contact: 877-226-4628, www.maxon.net
Price: $1,695 (SRP), $395 upgrade from version 6
Requirements: Power Mac, 64MB RAM, Mac OS 7.6.1 or later, CD-ROM drive
Recommended: G4, 256MB RAM, 19-inch or larger display



What's not to like? Cinema 4D XL 7 has a fast radiosity renderer, integrated 3D paint, strong modeling tools, and a Mac-like interface.

The Mac hosts only a few professional-level 3D animation apps—four, to be exact—and one of the most capable is Maxon's Cinema 4D XL. Like its main rival, NewTek's LightWave ($2,495, www.newtek.com), Cinema 4D XL is designed for serious artists and productions. Like LightWave, it has a top-flight polygonal modeler with subdivision surfaces and excels at producing extremely high-quality images. But unlike LightWave, Cinema 4D is easy to learn and has a Mac-like interface.

Version 7 includes a couple of outstanding new features—the best is its unusually fast radiosity rendering. This complex and potentially time-consuming technique closely reproduces the reflection and diffusion of light bouncing interactively between surfaces. Cinema 4D already has the fastest ray tracer on the Mac, and its radiosity implementation is also extremely speedy—plus the tool yields beautiful results and offers advanced features like multipass rendering, caustics, and blurry transparencies and reflections.

Another welcome addition is network rendering, which enables multiple machines to render a project simultaneously. We found it easy to set up a TCP/IP-based "render farm" in our mixed Mac-and-PC environment (the program ships with support for three render clients).

Game-graphics animators will get excited about Cinema 4D's new polygon-reduction tool, which shaves polygons from models. For example, you can reduce a dense polygon mesh—say, for a game character—to the minimum number of polygons needed to render the object. Even better, the reduction is a hierarchical, dynamically defined process; you could, for example, compose a character with more polygons when it appears closer to the viewer, and with fewer when it's further away.

Like to blow stuff up? Maxon has thoughtfully added a new polygon-based explosion tool called Explosion Gizmo. You can shatter a model into polygons, polygon clusters, or user-defined clusters. When an object explodes, Cinema 4D extrudes each cluster a bit to give each piece an appearance of depth.

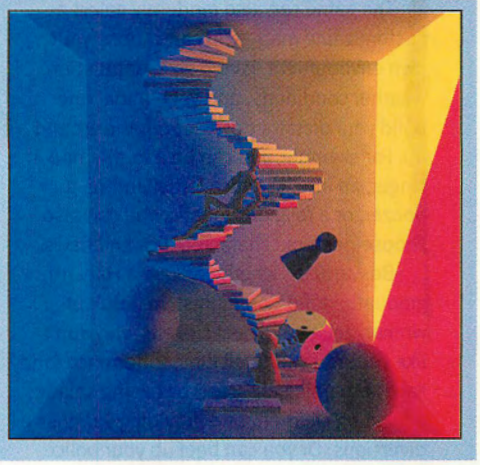
We found Cinema 4D's inverse-kinematics (IK) and skeletal-deformation tools disappointing. Given our proclivity for character animation, we hoped to see a significant improvement over the IK features of the last version we reviewed (5). But the current IK system lacks the range of relationships and constraint types that make advanced skeletal-control systems possible. Some IK setups yield unpredictable results. We found it impossible to make a muscle bulge accurately when we bent our character's limb. This is not to say you can't do character animation with Cinema 4D XL 7, but these tools aren't on par with the rest of the application's features.

Cinema 4D XL 7 is one of the strongest 3D programs on the Mac, and version 7 is a worthwhile upgrade. We recommend it to any game artist or illustrator looking to create 3D images of the highest caliber.
—Steve Anzovin and William Young

good news: Superb radiosity renderer. Polygon-reduction tools. Network rendering.
bad news: IK systems not on par with the rest of the program.

Light It Up

Cinema 4D XL 7's new radiosity renderer is the fastest we've seen. This image took only 16 minutes and 8 seconds to render at 800 by 600 on a stock 400MHz G4 with 320MB of RAM. That might seem like a long time until you consider that similar images with soft shadows and diffused lighting tend to take *hours* to render in other programs.



The glowing walls are the only sources of light in this image. Note the soft shadows, diffused lighting, and reflected colors.

Tropico

fun & games

Company: MacSoft
Contact: 800-229-2714, www.wizardworks.com/macsoft
Price: $45 (SRP)
Requirements: 200MHz Power Mac or faster, Mac OS 7.5.3 or later, 32MB RAM, 820MB free hard disk space, CD-ROM drive

You can construct archaeological sites for scientists or open them up as tourist attractions.

Move over, Castro—a new dictator's coming to power. Tropico is an entertaining virtual training ground for dictators-in-waiting, and it offers a lighthearted look at politics with a snazzy premise.

You've been elected el presidente of an impoverished Caribbean island. How you lead your life and play the game is your decision. Will you whip your island into a strong economic power with tourist attractions, a happy citizenry, and enough cigar and rum factories to attract big export bucks? Or will you turn your tropical hideaway into your own private sandbox with secret Swiss bank accounts, lavish palaces, dancing girls, and enough tough cops to keep grumbling peasants in line? The choice—goody-two-shoes idealist or paragon of evil—is yours.

The gameplay will be familiar to anyone who has played city or empire building games. Play one of ten ready-made scenarios or opt for an open-ended game on a random map. The scenarios range from moderately easy to hair-pullingly difficult. You'll erect buildings, micromanage crops, create a strong military force, and build hotels and swimming pools to attract tourists.

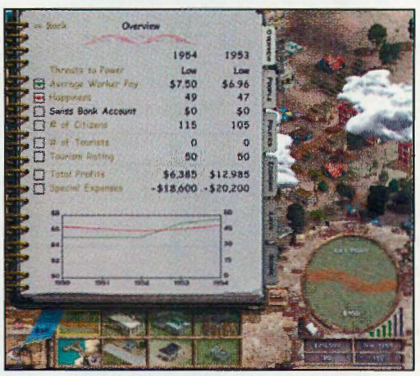
The game can also randomly select a customizable map—you can choose your own environment, island size, population, weather conditions, and vegetation, and build your dictator dossier from the ground up. For example, you can be a former pop singer, an intellectual, a leftist author, a boozer, or a religious fanatic. You can also choose personal characteristics and flaws.

Be warned—whether you're a Harvard graduate, rabid Communist, or flatulent womanizer, you'll meet citizens who don't like you. You can quell their abhorrence (and save your political career) by raising salaries, educating children, and providing expensive diversions. Or you can beef up your police and army, clamp down on complainers, and delay elections by sending assassins to eliminate organized opposition.

Whether you play down and dirty or try for sainthood and a halo, you'll need to raise money from crops and manufactured goods, and keep tabs on your nation's social problems and contentedness. No problem. Tropico not only gives you an annual report of yearly successes and failures, but also provides helpful color codes that show where to find valuable minerals, which farmland is best for tobacco or cotton, pollution levels, average rainfall, and high-crime areas.

Though the building process can be slow, Tropico is like Sim City with sombreros and banana daiquiris—satisfying if you love life in the slow lane.—*John Lee*

good news: Enjoyable premise. Good look and feel. Opportunity to play good or evil role.
bad news: Being evil doesn't work as well as one might expect.



Trouble in paradise? Check out your running score and other info in the annual report.

Color codes can help in planning, as in this overlay showing tobacco-crop conditions.

Tips for Tyrants

How does one remain in political power? Keep the natives fat and happy and raise salaries before an election. Or ease your way with these tips.

- Place housing near work sites. Tropico's working class won't shell out cash for cars. They walk to work and need to live close to their jobs.
- Flat land is vital to city growth—don't waste it on farms. Most of your crops will grow fine in the hills. Save the level ground for buildings and factories.
- Build schools and educate children. You'll need technologically skilled workers, and if you don't provide education, you'll have to pay a premium for imported workers.
- Invest in diplomatic ministries. Making friends with the United States or Russia can bring in foreign-aid bucks.

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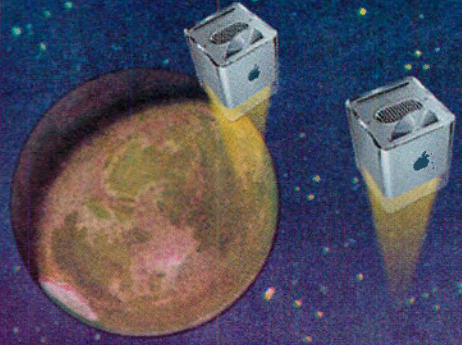


MacAddict
A better machine. A better magazine.

Through the Looking Glass, Darkly

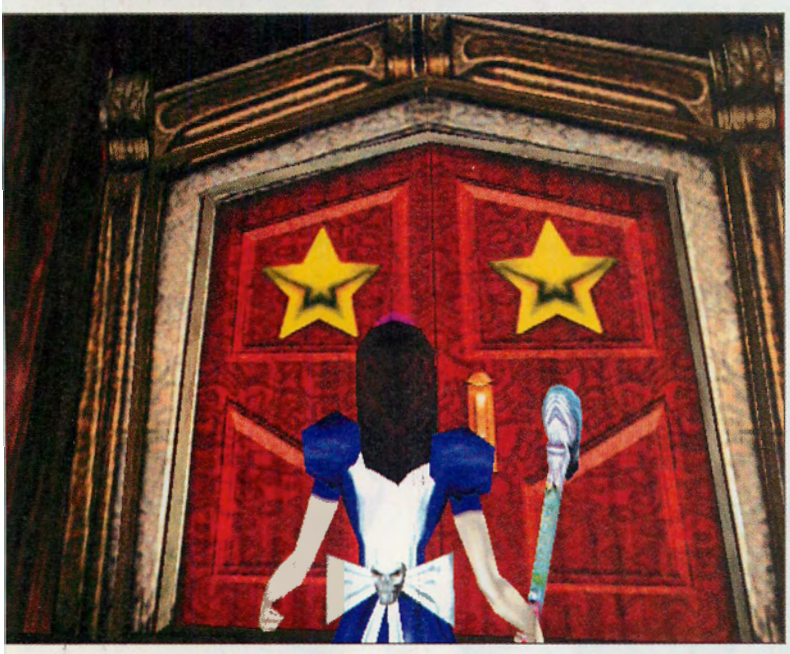
A Look at Aspyr's Alice

Don't let the name fool you. Despite the childish images that come to mind when you hear the name *Alice,* giving a copy of Aspyr's new game to a youngster would be cruel. Alice is a violent game, but we've seen, played, and enjoyed much worse. More disturbing is the game's imagery, which managed to give more than one *MacAddict* editor nightmares. Alice is a dark and disquieting take on Lewis Carroll's 19th-century classic, one geared far more to adult sensibilities than to young tastes.

In Alice, you play the namesake character of Lewis Carroll's books. Ten years after a devastating fire (started by Dinah—bad cat!) kills her parents, Alice is a comatose inmate at a mental institution. You must guide her (in the third-person fashion of Tomb Raider and Oni) through a disturbingly distorted version of the world of the two Alice books, in hopes of regaining her sanity. You have some allies (among them are a mangier but still obscure Cheshire Cat; the White Rabbit; and an odd, gnomish creature), but by and large the creatures of this world are out to kill you, eat you, and mentally torture you.

Based on the Quake III engine, Alice is the first game we've seen that runs much better natively in OS X than in OS 9—not entirely surprising, given the Quake engine's memory-hungry nature. While the actual mechanics of the game aren't anything new (there's an unusual surfeit of third-person shooters for the Mac these days), the eerie soundtrack and clever visuals make Alice worth a serious look.—*IS*

Forget tea parties—this version of Alice is out for blood.



Alice really shines at higher resolutions—you can see details like the skull formed by the knot in Alice's apron.

Well, it's almost like Disney's animated classic—if you ignore the blood, the screaming, the disturbing backgrounds, and the music.

Even this boss (one of the first you'll encounter) is a bit of a challenge; later bosses are very, very difficult to defeat.

Time Flies

WingNuts Provides Classic Arcade Action

WingNuts is a straightforward air-combat arcade shooter—but it's a very, very good one.

Any longtime Mac gamer should be familiar with Freeverse's software. The company has a string of wildly popular card games, along with a series of toys too bizarre to forget (no matter how hard one might try)—SimStapler and the Jared series come to mind. Freeverse has long lurked in the shadowy borderlands between shareware vendors and full-blown commercial software developers. Its new release, WingNuts: Temporal Navigator, carries on the company's tradition of writing full-featured games.

WingNuts is an arcade game that draws heavily from airplane-combat classics such as Time Pilot and 1942. You battle your way through increasingly competent swarms of enemy aircraft and ground vehicles. When you manage to destroy every enemy emplacement, you face the boss (as always in this sort of game, an enormous and heavily armed aircraft).

WingNuts is the sort of game you can easily play through the night, regaining awareness only when the glare from the rising sun finally causes you to lose a life. As of press time, Freeverse hadn't decided whether to distribute WingNuts as shareware or boxed; either way, it's a game to watch for.—*IS*

Radeon's Revenge

ATI Fights Back with the Radeon 8500

Now that Apple's Power Macintosh G4 line is relying entirely upon nVidia for its display capabilities, ATI is scrambling to reclaim its former dominance on the Macintosh platform. Its latest weapon is the high-end Radeon 8500 graphics card.

The Radeon 8500 is essentially a Radeon card beefed up with ATI's new Smartshader and Truform technologies. These give developers OpenGL extensions that allow quicker rendering and more complex shapes and textures.

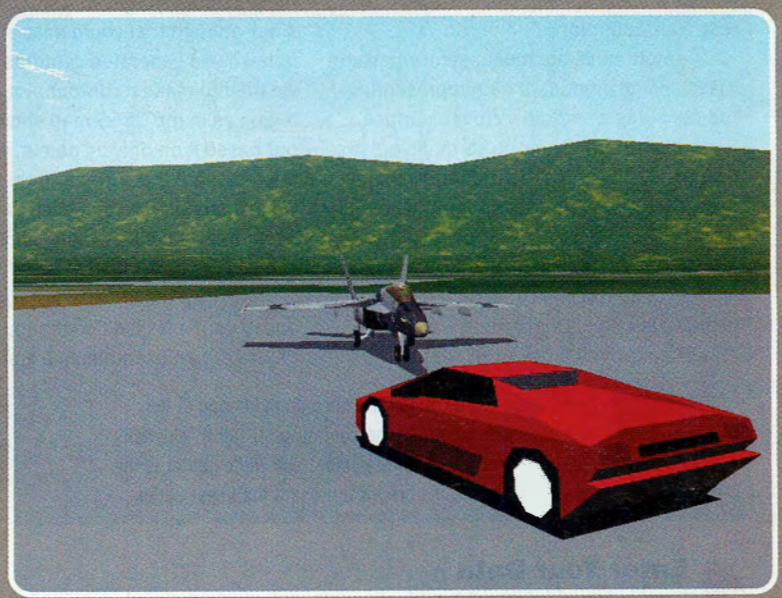
Smartshader lets developers write custom shading programs that execute on the Radeon 8500 itself, freeing up the CPU. With Smartshader, developers can write both vertex-shading routines (for creating deformable surfaces such as liquids and cloth) and pixel-shading routines (for creating complex texture and lighting effects).

While it's similar to nVidia's nfiniteFX technology, Smartshader can process significantly more-complex shading algorithms. Truform lets games specify shapes as curved surfaces in three dimensions instead of as a grid of triangles; this allows programmers to describe curved surfaces with much less data.

Pricing and availability of the Radeon 8500 had not been announced at press time.—*IS*

SCREENSHOT OF THE MONTH

From the look of things, this reader got a little lost on his way to the race.



Artist's Statement

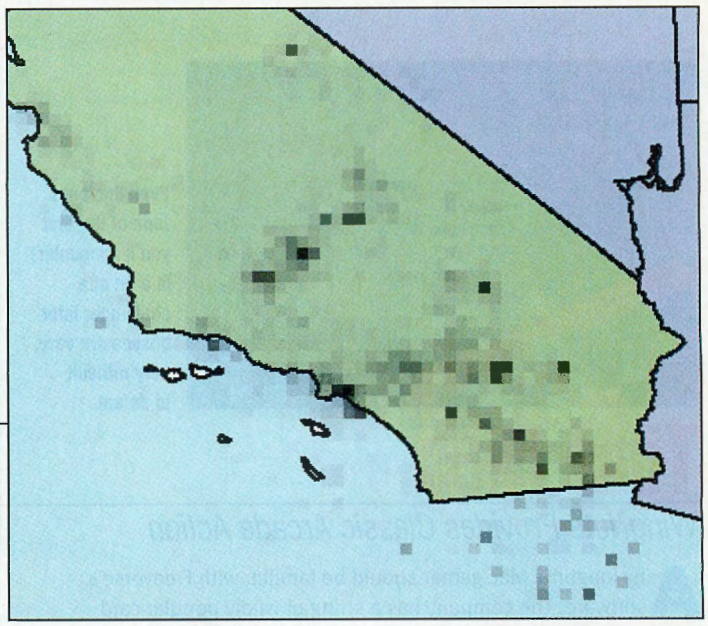
I recently passed driver's ed, but I'm still having trouble parking.—*Clay Hegar*

Send your best screenshots to letters@macaddict.com with the subject line "Screenshot of the Month" if you crave fame and glory (or at least fleeting satisfaction upon seeing your screenshot in a magazine).

Plot a Density Graph in Excel

EASY

by Ian Sammis



MAP BY DR. DAVID BOWMAN

Density plots are perfect for certain types of data, such as earthquake frequency.

WHAT YOU NEED

- Microsoft Excel 2001 ($399, www.microsoft.com)
- GraphicConverter 4.0.9 ($35, www.lemkesoft.com)

TOUGH
This stuff's for the pros.

TRICKY
It'll take some effort, but you can do it.

EASY
The fundamentals, if you will.

While you can create many types of charts in Excel, the density plot—a simple plot in which you treat datapoints as pixel values—somehow fell by the wayside and didn't make it into Excel. That's a shame—there are datasets (such as 2D histograms, small 2D datasets, and sets that don't represent a continuous surface) for which you really shouldn't use Excel's contour and surface plots.

Fortunately, the shareware gem GraphicConverter can read tab-delimited datasets and turn these datasets into graphics. Since turning a dataset into a graphic is exactly what you need to make a density plot, you can easily combine Excel and GraphicConverter to make professional-looking density plots.

When Should I Use a Density Plot?

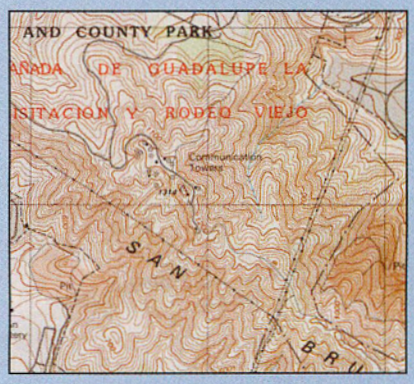
Simply put, a density plot is a graphical representation of a two-dimensional dataset in which you treat each datapoint as a pixel value. But how do you know when to use a density plot and when to use a contour plot?

Contour plots are most useful when you have a large amount of data representing points along a smoothly curved surface, such as the surface of the earth. If you've ever been hiking, you're probably familiar with contour plots—the topographic maps you can buy from the US Geological Survey are classic examples. In a contour plot, it can be quite difficult to see where the actual data points were measured. If you have enough data, however, seeing individual datapoints is less important than representing the surface from which they are drawn.

Density plots, on the other hand, are more useful if you have a small dataset—small enough that you'd miss important detail if you generated contours from it. If we tried to make a contour plot of the same region as in the USGS map shown at right, but based it on only 25 points, we'd badly misrepresent the surface. In this case, we instead need to plot each datapoint separately, so folks looking at our chart can see the data clearly.

Density plots are also appropriate if one of your axes isn't continuous. Student grades are an example: In a gradebook, one of the axes might be *last name*, and similarly named students don't necessarily perform similarly. If you have a dataset that doesn't represent a curve, a contour plot is worse than useless—it can actually be misleading. ("Hmm...there's a big plateau of high grades around *M*...")

Here, when we have only 25 elevations instead of the hundreds that went into the contour plot (right), a density plot is a more appropriate choice. The white center is the mountain; the black corners represent the lower edges.



MAP COURTESY OF THE US GEOLOGICAL SURVEY

If you have enough data, a contour map is ideal.

1 Enter Your Data

First, enter your dataset into a rectangular grid of cells. For the purposes of this how-to, we'll assume you have 25 datapoints arranged in a 5 by 5 grid from A1 to E5. (We took elevation values from our USGS topographic map). Since 25 data points isn't a lot of data, a density plot is appropriate.

Workbook1

	A	B	C	D	E
1	620	725	715	550	375
2	900	1075	1050	450	175
3	525	900	1100	700	400
4	400	650	860	1050	700
5	290	500	475	700	900

Here we have a grid of 25 elevation measurements, from the lovely mountain behind the *MacAddict* offices.

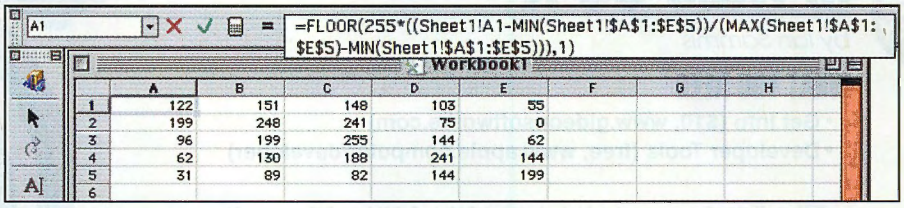
2 Scale Your Data

To make a density plot, you have to map your data to numbers between 0 and 255 (a grayscale ramp only contains 256 shades of gray). The usual way to do this is by scaling your data so that the minimum value becomes 0, the maximum 255, and other numbers scaled to fit into this range. To perform this scaling, click the Sheet2 tab at the bottom of the window, then enter the following formula into A1:

=FLOOR(255*((Sheet1!A1-MIN(Sheet1!$A$1:$E$5))/(MAX(Sheet1!$A$1:$E$5)-MIN(Sheet1!$A$1:$E$5))),1)

If you're into math, you can quickly verify that this will turn the smallest value into 0, the largest value into 255, and other values into appropriate intermediate values. If you're not into math, just take our word for it.

To rescale the data, select the row from A1 to A5, then choose Right from the Fill submenu of the Edit menu. Next, select the entire range from A1 to E5, and choose Down from the Fill submenu of the Edit menu.

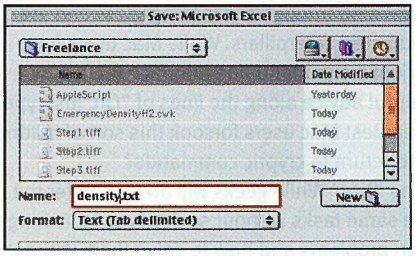


	A	B	C	D	E	F	G	H
1	122	151	148	103	55			
2	199	248	241	75	0			
3	96	199	255	144	62			
4	62	130	188	241	144			
5	31	89	82	144	199			
6								

The data are now rescaled to lie between 0 and 255, so they can represent pixel values.

3 Export the Scaled Data

Now that you have the data in a form you can easily plot, it's time to export it. Choose Save As from the File menu, then choose Text (tab delimited) from the Format pop-up menu. Excel will repeatedly warn that you won't save all the data in the worksheet (the text file will only store the data on the current sheet, which is all you want to save anyway). Save the file as density.txt.



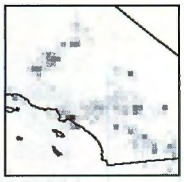
Since GraphicConverter can read tab-delimited text files, we're almost done.

4 Create a Palette

On Sheet3, you need to create a list that will tell GraphicConverter which numbers correspond to which colored pixels. Do this by creating a sheet three columns wide and 256 rows high. The first row will contain the red, green, and blue values corresponding to a value of 0, the second to the values corresponding to 1, and so forth.

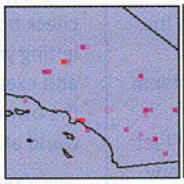
The most common palette is one that simply starts with three zeros, then three ones, and so on, down to three 255s. This will create a straightforward grayscale density map, with black squares representing values of 0, white squares representing values of 255, and so forth. Many other useful palettes exist; experiment with lists of 256 pixel values to see what effects you can achieve.

When you finish your palette, save it as a tab-delimited text file named density.pal.



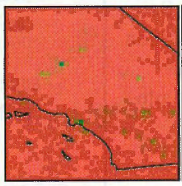
	A	B	C
1	0	0	0
2	1	1	1
3	2	2	2
4	3	3	3
5	4	4	4
6	5	5	5
7	6	6	6
8	7	7	7

You'll probably use the grayscale palette more frequently than any other—it plots data from black to white.



	A	B	C
1	0	0	255
2	1	0	254
3	2	0	253
4	3	0	252
5	4	0	251
6	5	0	250
7	6	0	249
8	7	0	248

The temperature palette creates quite attractive density plots. It runs from blue to red, and is especially useful for temperature measurements.

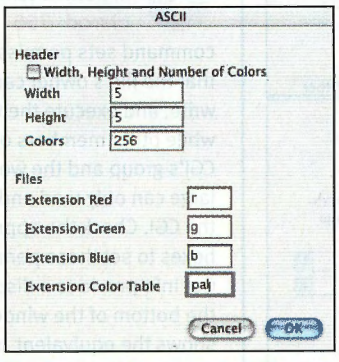


	A	B	C
1	255	0	0
2	254	1	0
3	253	2	0
4	252	3	0
5	251	4	0
6	250	5	0
7	249	6	0
8	248	7	0

This palette, which runs from red to green, is useful if high values are expected and low values are dangerous. It's a good choice for gradebooks.

5 Open the Density Map in GraphicConverter

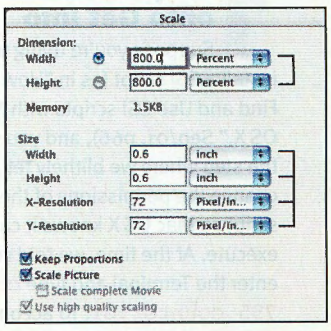
Now, open GraphicConverter. Choose Open from the File menu. In the dialog box that appears, set the Filter pop-up menu to ASCII, then open density.txt. At this point, a second dialog box will appear. Set Width and Height to the dimensions of your dataset (in this case, 5 and 5), and set Colors to 256. Click OK, and your plot will appear. Unfortunately, since each data point is represented by a single pixel, you can't really see much. You need to enlarge the image to see anything.



You don't need to worry about the red, green, and blue extensions—you're not using them.

6 Enlarge the Image

Choose Scale from the Size submenu of the Picture section. Set the scale to a large value (we used 800 percent to represent each datapoint with an 8-by-8-pixel square), and make sure that Keep Proportions and Scale Image are checked. Click OK, and you have a density plot.



Don't be afraid to increase the size of your plot dramatically—even with an 800 percent increase, a 5-by-5-pixel dataset increases to only 40 by 40 pixels.

Ian Sammis had to rewrite this quickie when *MacAddict* wound up two pages short.

Avoid the Terminal in Mac OS X

TRICKY

by Ian Sammis

WHAT YOU NEED

- **Get Info ($10, www.gideonsoftworks.com)**
- **Developer Tools (free, www.apple.computer/developer)**

Find GetInfo 0.3 on The Disc.

All the focus on the Unix basis of Mac OS X has left some Mac users feeling as though they've traveled through the looking-glass and are conversing with narcotic-addicted caterpillars. While Mac users have traditionally defended the Mac's lack of a command-line interface (CLI), now suddenly the Mac world is full of helpful advice along the lines of "Oh, just type `chmod 755 counter.pl`." The earliest Mac users forsook this sort of madness 17 years ago—are we now doomed to return to cryptic commands?

Fortunately, the answer is a strong "No!" While geeks will always prefer the CLI, it's quite possible to accomplish the same tasks without so much as launching the Terminal. Let's look at some common problems and how to solve them without the Terminal.

ILLUSTRATION BY NATHAN JUREVICIUS

If you're willing to set aside Aqua temporarily, the X Window System lets you run more Unix apps.

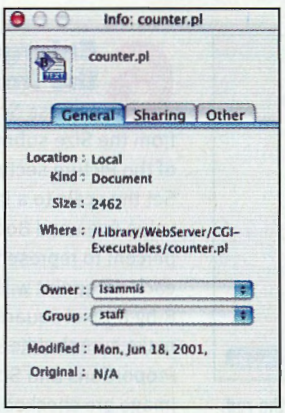
CHANGING PERMISSIONS

In Mac OS X, as in most Unix-based systems, every file has certain associated properties. Each file has an owner and a series of permissions that tell the System what various users can do with the file. When Mac OS X tells you that you don't have the necessary access privileges to delete a particular file, you've run into a problem that requires changing permissions.

Unfortunately, the Show Info dialog box in Mac OS X doesn't let you change enough of the file's permissions information for many purposes. Two rival software solutions exist: Super Get Info by Bare Bones Software ($20, www.barebones.com) and Get Info by Gideon Softworks ($10, www.gideonsoftworks.com). We'll demonstrate with Gideon's Get Info program; it's half the price of Super Get Info and does almost precisely the same thing.

1 Drop the File onto Get Info

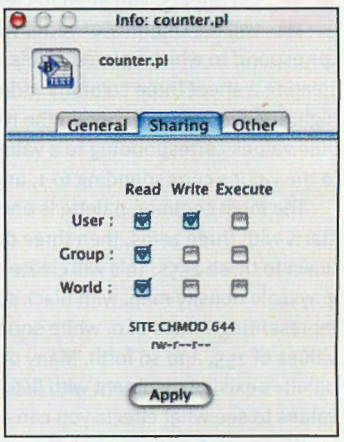
Suppose you're trying to install a CGI script (as in "How to Find and Use CGI scripts with Mac OS X," Sep/01, p66), and you reach the step where we blithely tell you to change the permissions of the CGI script so Mac OS X knows it can execute. At the time, we told you to enter the Terminal and type `chmod 755 counter.pl`. To accomplish the same task in a more Mac-like way, start by dragging the CGI script onto the Get Info icon. A window representing the file should appear.



Get Info is a more powerful replacement for Show Info.

2 Click the Sharing Tab

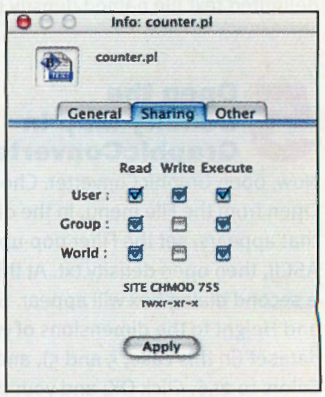
In Get Info, click the Sharing tab. A grid of nine check boxes will appear, letting you set read, write, and execute permissions for the owner, the group, and the world at large.



This grid of check boxes is an expanded version of the usual pop-up menu that appears in the Sharing panel of the Show Info dialog box.

3 Set Up Extract

In human terms, the `chmod 755` command sets permissions so that the file's owner can read, write, and execute the CGI, while other members of the CGI's group and the world at large can only read and execute the CGI. Check the appropriate boxes to set these permissions. Get Info provides a display at the bottom of the window that shows the equivalent `chmod` command, so you can be certain you've got it right. Click OK when you're done.



From the line of text at the bottom of the window, you can see that we've set the permissions to those the `chmod 755` command would yield.

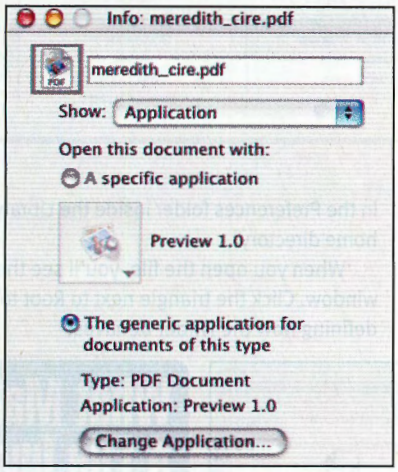
FILE TYPES

Mac OS X, because it inherits traits from both the Mac OS and Unix-style operating systems, makes a complicated series of decisions about what should happen when you double-click a file in the Finder. Like Mac OS, Mac OS X uses type and creator codes (four-character codes that tell the Finder what sort of file it's dealing with and which application should open it, respectively). Like most Unix systems, it also recognizes some file-name extensions, such as .jpg and .pdf.

This process sounds reasonable, but it creates constant problems. Mac OS X frequently assigns the wrong application to a file; for example, if you give an Acrobat PDF file the obvious .pdf extension, Mac OS X will decide that the file actually belongs to Preview. Fortunately, Mac OS X provides a much easier mechanism for letting you change the application with which a file is associated than Mac OS 9 provided. Here's how to tell Mac OS X which application should open a file.

1 Choose Show Info

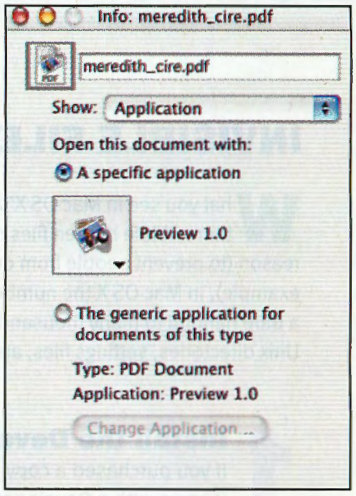
To start, click the file in the Finder and choose Show Info from the Edit menu. The Info window will appear. Choose Application from the pop-up menu to see your choices.



Mac OS X will open this PDF file in Preview, which the operating system uses as a sort of catch-all category for unrecognized PDF files.

2 Set a Specific Application

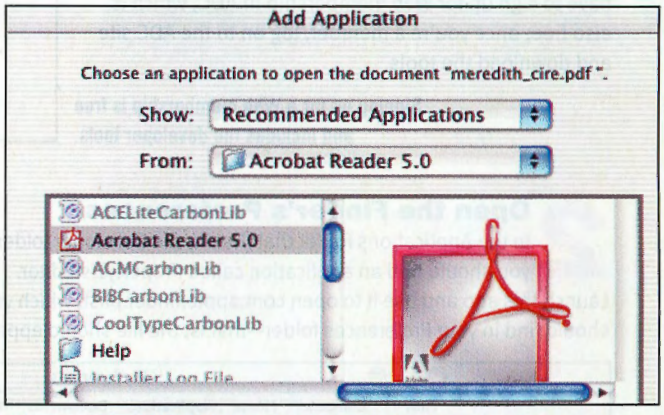
If the file isn't associated with any application in particular, click the radio button labeled A Specific Application (otherwise you'll change the default app for every document of this type, instead of just the specific file you're fiddling with).



You can tell Mac OS X which application should open this file without affecting every PDF on your system.

3 Choose Your App

Finally, choose your application from the pop-up menu below the Specific Application radio button. If you don't see the application you want, choose Add Application and select your app in the dialog box.

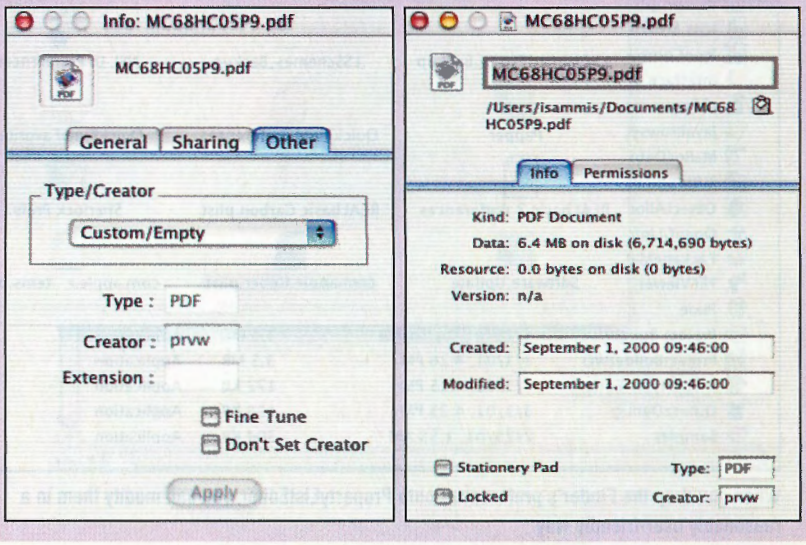


After choosing Add Application, we can finally browse to Acrobat Reader, reattaching this wayward PDF to its parent application.

Changing Type and Creator

A second common problem in Mac OS X involves file types. Frequently, an application written in Cocoa (TextEdit, for example) won't tag files with the standard Mac OS type and creator codes; instead, the Cocoa app will rely entirely upon file-name extensions. This can cause problems with Carbon apps like FileMaker, which tend to rely entirely upon types and creators.

Both Get Info and Super Get Info can set types and creators with ease. In the former, click the Other tab to see a screen where you can set the type and creator, then click the Fine Tune button to edit them directly. In the latter, the type and creator codes appear at the bottom of the main window.



Get Info (near right) and Super Get Info (far right) make it easy to set the type and creator codes for your files.

INVISIBLE FILES

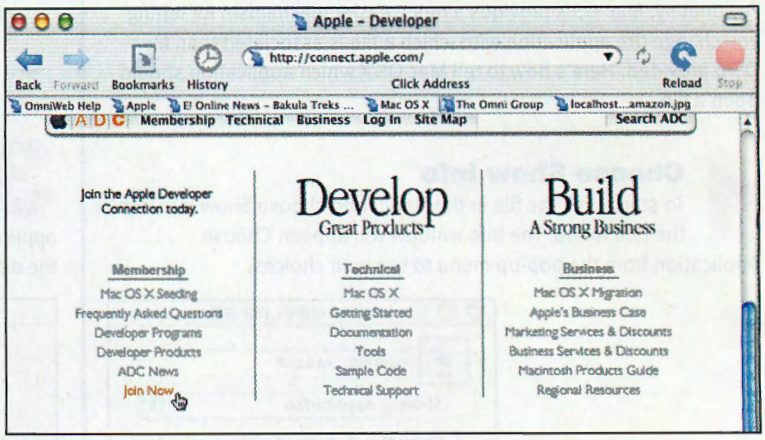
What you see in Mac OS X's Finder isn't necessarily all that's there. While hidden files have long existed on Macs for good reason (to prevent people from dutifully backing up DesktopDB, for example), in Mac OS X the number of invisible files has exploded from a bare handful to many thousands. An entire hidden world including Unix directories, settings files, and the Mach kernel itself lurks unseen, disguised from all but the odd Terminal user who happens by.

Some of these hidden files are essential. The httpd.conf file, for example, sets the preferences for the Apache Web server—you need to modify it if you want to use server-side includes, optimize your server, or set something other than index.html as a default file. Here's how to make invisible files appear in the Finder.

1 Install the Developer Tools

If you purchased a copy of Mac OS X from a store, it came with a Developer Tools CD. While these tools primarily target developers, they're also useful for the traditional hacking that has made ResEdit so much fun over the years. Install them!

If your machine came with Mac OS X, you can easily download the developer tools for free from Apple's developer Web site (www.apple.com/developer). You'll have to sign up for Web membership in ADC, which is also free; once you're a member, log on to the ADC site and download the tools.

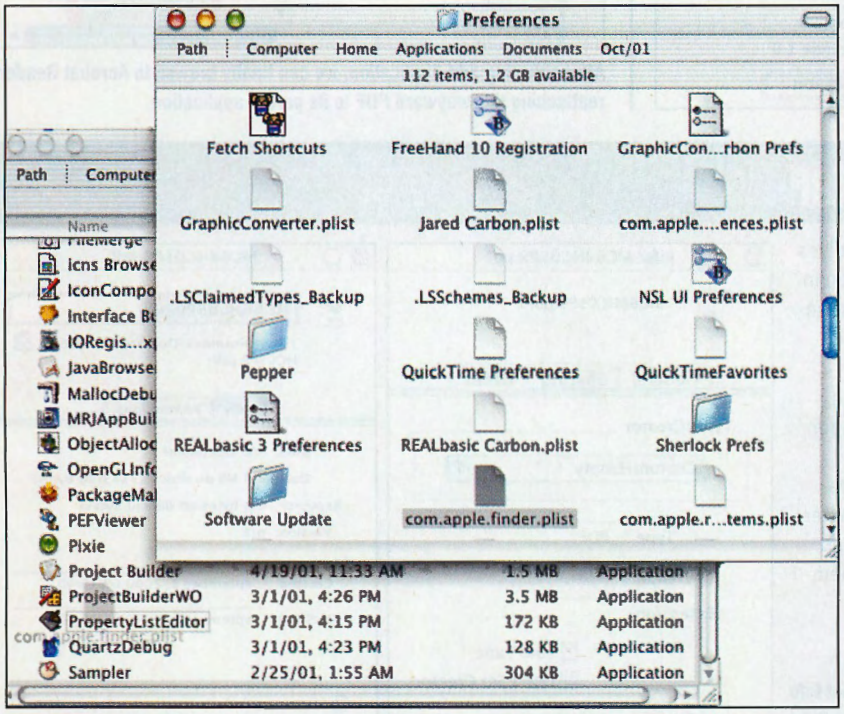


Signing up for a Web membership is free and includes the developer tools.

2 Open the Finder's Preferences

In the Applications folder that lives in the Developer folder, you should find an application called PropertyListEditor. Launch this app and use it to open com.apple.finder.plist, which you should find in your Preferences folder—that is, the file should appear in the Preferences folder inside the Library folder that appears in your home directory.

When you open the file, you'll see the word *Root* in a new window. Click the triangle next to Root to reveal a list of properties defining how the Finder behaves.



When you drop the Finder's preferences onto PropertyListEditor, you can modify them in a reasonably user-friendly way.

What Makes A File Invisible?

In Mac OS X, you can render a file invisible in one of three ways:

Invisible Bit Set
On HFS+ disks, you can use the traditional Mac OS method and set the "invisible bit" of a file to true in a program like ResEdit.

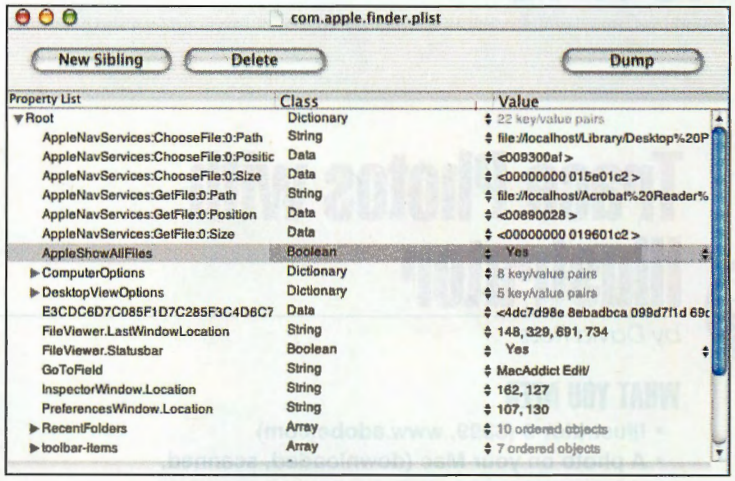
Start with a Period
In Unix systems, files whose names start with a period like .cshrc are invisible. Mac OS X honors this technique as well.

The .hidden File
Mac OS X also supports a hybrid system in which you can create a file named .hidden that lists other files in a directory you should render invisible. Of course, the hidden file is itself hidden, since the file name starts with a period.

3 Add AppleShowAllFiles

When you click the triangle, the title of the button in the window's upper-left corner should change to New Child. Click this button to create a new entry in the table. Call the new entry AppleShowAllFiles (formerly ShowAllFiles—for unknown reasons Apple changed the name).

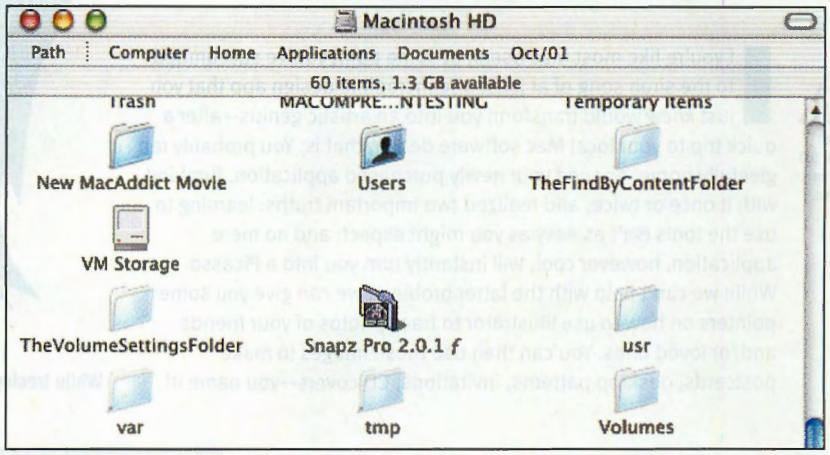
To the right of the new property's name, you should see the word *String* followed by a pair of arrows. Click the arrows to reveal a pop-up menu of possible types of information, then choose Boolean (this just means the value of AppleShowAllFiles will be Yes or No). At the right edge of the row, set AppleShowAllFiles to Yes. Save the file and quit PropertyListEditor.



With this AppleShowAllFiles property added, the Finder lets you see invisible files and folders.

4 Restart the Finder

Finally, you need to restart the Finder so it will read its preferences file again. The easiest way is to reboot. That's it! Now you should see all the Finder's files; invisible files and folders should look slightly transparent to indicate that you wouldn't normally see them.



With AppleShowAllFiles set to Yes, you can now see Unix-type folders such as usr.

What Are All These Invisible Files?

In Mac OS X, the moment you set AppleShowAllFiles to Yes, you suddenly see a huge number of files and folders previously invisible. Here's a guide to some of the files you can find.

Name: etc
Location: Root level of Startup disk
Description: The etc folder stores the preference files of the Unix layer of Mac OS X. If you're not a Unix type, steer clear of these—you can do a fair amount of damage to your system if you don't know what you're doing.

Name: Volumes
Location: Root level of Startup disk
Description: In Unix systems, hard drives other than your startup device are usually mounted in a manner that makes them resemble folders within the startup disk. Since this concept is foreign to Mac users, Mac OS X carefully hides mounted disks in the invisible Volumes folder, then uses the Finder to make them appear on the desktop in the manner you'd expect.

Name: mach_kernel
Location: Root level of Startup disk
Description: This is the very core of Mac OS X. It's invisible because moving it or deleting it would be a horrendously bad idea.

Name: .DS_Store
Location: Darned near everywhere
Description: The .DS_Store file appears in folders you examine with the Finder. It stores the actual locations of the icons in icon view; storing it on a per-folder basis makes the file considerably simpler than the Desktop file method older Mac OS variants used.

Name: .FBCIndex
Location: Your home directory and its subdirectories
Description: These are the databases Sherlock creates to perform Find By Content searches.

Name: var
Location: Root level of Startup disk
Description: The var folder stores the files that the system generates as it works. It contains a particularly interesting folder called *log*; log contains ongoing lists of significant events (think of it as the system's diary).

Name: sbin
Location: Root level of Startup disk
Description: The sbin folder contains the most frightening command-line programs. Commands range from turning off your computer to reformatting your hard drive.

Ian Sammis has completed 22 how-tos in 24 issues. This gives him the rank of Bearded Geek.

Trace Photos with Illustrator

TRICKY

by David Ross

While tracing in Illustrator is tricky, the results make the effort worthwhile.

WHAT YOU NEED

- **Illustrator 9 ($399, www.adobe.com)**
- **A photo on your Mac (downloaded, scanned, or imported from a digital camera)**

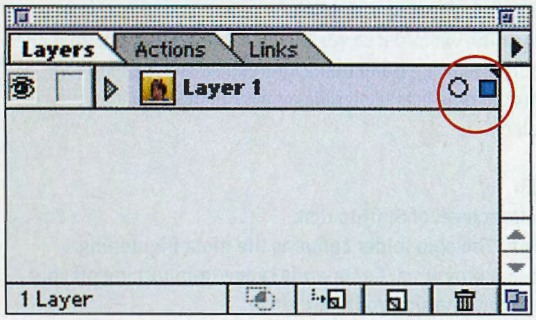
Find an Illustrator 9.0 tryout on The Disc.

If you're like most Mac users, at some point you've succumbed to the siren song of at least one incredible design app that you just *knew* would transform you into an artistic genius—after a quick trip to your local Mac software dealer, that is. You probably ran gleefully home, opened your newly purchased application, fumbled with it once or twice, and realized two important truths: learning to use the tools isn't as easy as you might expect; and no mere application, however cool, will instantly turn you into a Picasso. While we can't help with the latter problem, we *can* give you some pointers on how to use Illustrator to trace photos of your friends and/or loved ones. You can then use these images to make postcards, desktop patterns, invitations, CD covers—you name it!

1 Place Your Photo

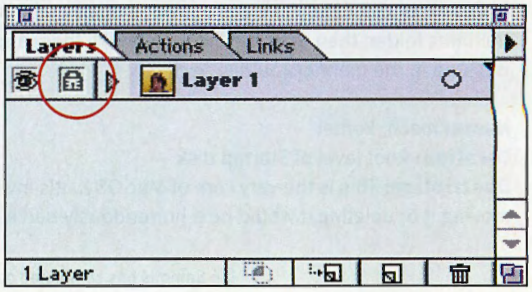
In Illustrator, create a new document by choosing New from the File menu. Choose Place A Photo Into A New Illustrator Document. Select a photo in any common image format—as long as you avoid obscure types like FITS, you should be fine. If necessary, resize the photo by grabbing the edges and dragging.

The photo should appear in Layer 1; if you click on the photo, Illustrator will place a small square in the Layers palette (located at the extreme right of Layer 1's row) to indicate that the current selection is in Layer 1. Click the New Layer icon at the bottom of the Layers palette (it should look like a page with a dog-eared lower-left corner) to create a new layer, which you'll use for tracing. Lock Layer 1 by clicking the box next to its name in the Layers palette. A padlock icon should appear in the box, indicating that you can't write to Layer 1.



This colored square at the right edge of the palette indicates that an item in Layer 1 is currently selected.

Here's our starting image, placed into an Illustrator document.

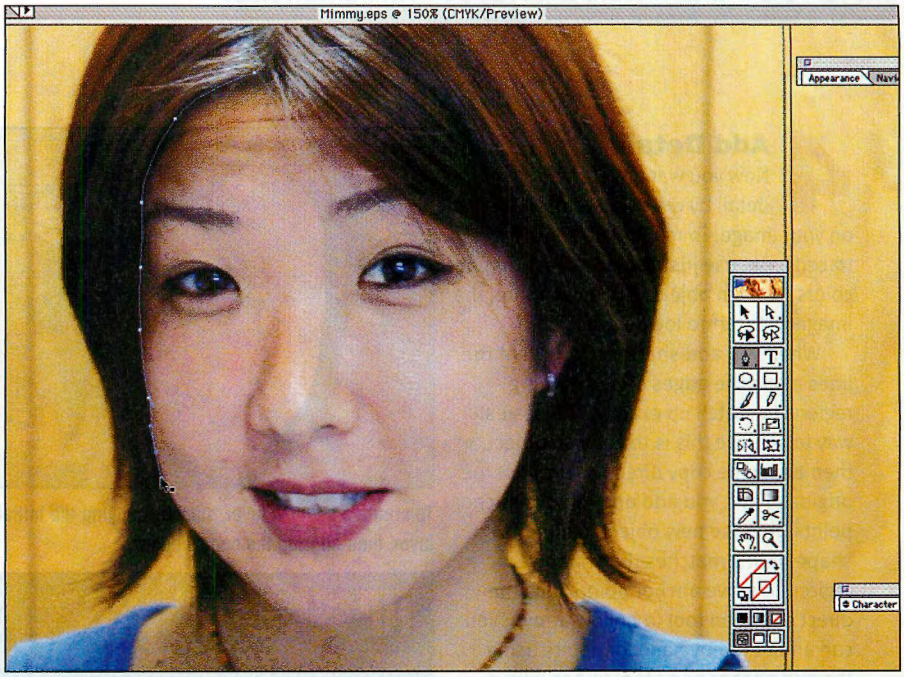


The lock icon indicates that you can't modify Layer 1; this will protect it as you start tracing.

2 Draw a Shape

Tracing via your computer is somewhat different from tracing with a physical pen. Instead of drawing lines along the edges of the image, you'll be thinking more like a painter—your goal is to create filled-in shapes in overlapping layers. By starting with light colors and moving on to darker ones, you'll build an image that—although it won't have black outlines—traces your photo.

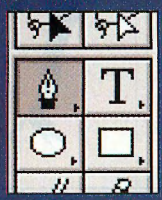
Select the pen tool by clicking its icon (it resembles a fountain pen) in the tool bar. Outline your first shape by creating anchor points around some large background object (in our example, the face of our subject). Use as few anchor points as possible to keep your shapes clean and round. When you're done, close off the shape by clicking your first anchor point with the pen tool, then moving the tool over the anchor point to which you want to connect your line. You will see a small circle next to the pen tool; click to close the anchor point lines and form a shape that you can fill in. Remember, you don't want to create an outline—you want to fill the object without stroking it.



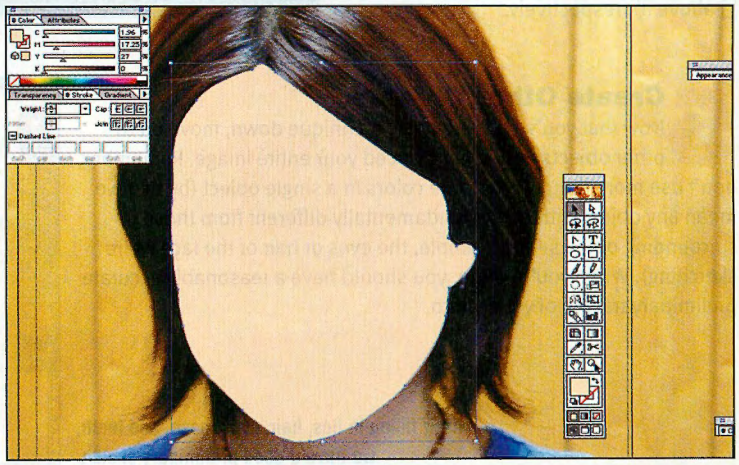
This entire how-to requires a bit of Bézier-tool savvy—if you're a longtime reader, you might want to haul out some back issues ("How to Use the Bézier Pen Tool," Mar/00, p64, for example).

At the end of this process you can curve the lines by selecting the pen tool, then dragging the cursor away from anchor points. The further away you move the cursor from the anchor point, the more curved your line will be.

TIP If you accidentally let go of the line you are working on (when you zoom in and out, for instance), you can connect it again by using the pen tool to scroll over the last anchor point you drew. A small angled line will show up next to your cursor. Just click the anchor point and continue on your way.



The pen tool has a lot of neat capabilities worth exploring.

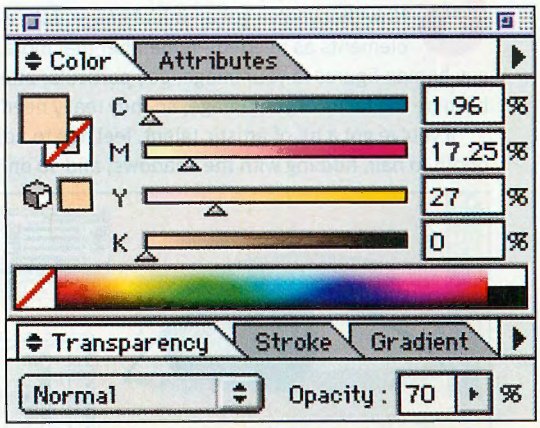


Since we're tracing a face, we filled our first object with a flesh tone that will provide a background for everything else.

3 Hide Your Work

If you're following along, you'll notice that a problem arises at this point—your first object has actually *hidden* the shape you were trying to trace! As you continue adding detail, you'll have to hide this object so you can see what you're doing. In Illustrator 9, you can accomplish this easily by adjusting the face's fill in the Transparency panel (70 percent opacity is about the right amount). This transparency function is not available in earlier versions, so if you haven't upgraded to Illustrator 9, you'll have to hide layers that block parts of the image you want to see. To hide a layer, click the eye icon next to its name in the Layers palette.

TIP Turn off the photo layer every now and then to check your progress and fine-tune any shapes that don't look right. Remember, the end result is more important than sticking precisely to the edges of the original image—take some artistic license!

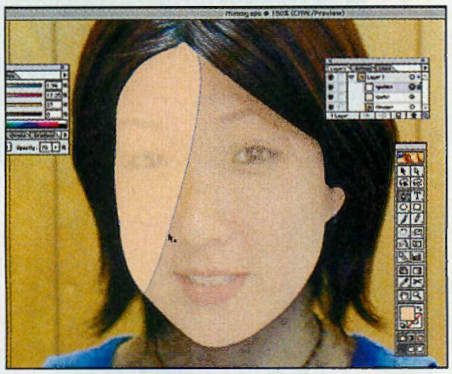


By setting the opacity of the upper layers to 70 percent, you can trace the photo as though you had layers of onionskin paper on top of it.

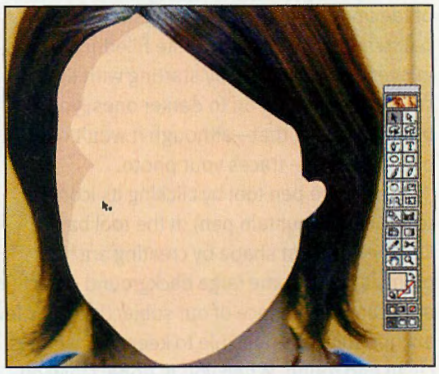
4 Add Detail

Now you want to start adding detail by drawing in the shadows on your image. To maintain a simple, traced look, use just two or three different colors for each object; if you use more, the image will start to look too busy.

When you add shadows, you want the lines along the edges of neighboring regions to match up exactly. The easiest way to achieve this is to copy an object, then paste the copy directly in front of the original. Next, you add and remove anchor points from the new object to alter its shape until it matches the shadowed region. To move anchor points, use the direct selection tool (a hollow arrow); you can add or remove anchor points using the add anchor point tool (a pen with a plus sign [+] above it) and the delete anchor point tool (a pen with a minus sign [-] above it), respectively.



To create a shadow layer, start by copying the initial layer, then altering the copy's edges.

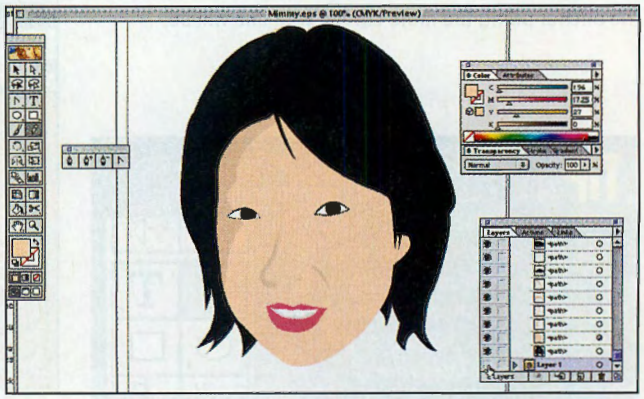


By tweaking the edges, you can create a plausible-looking shadow region.

TIP You should start naming your layers so you can keep them straight. Illustrator 9 automatically places each object you make onto a new sublayer. This can make it easier to handle objects buried below other objects, but on a piece like this, you could end up with nearly a hundred layers. Without titles, it's very difficult to differentiate—or even find—a particular object. You can also move layers up and down in the sequence by dragging and dropping their icons.

5 Create Other Objects

Now that you've got the basic technique down, move on to other objects until you've traced your entire image. Remember, don't use more than two or three colors in a single object (by that we mean any object with colors fundamentally different from those in surrounding objects—for example, the eyes or hair of the face we're sketching). When you're done, you should have a reasonably accurate preliminary tracing of your photo.

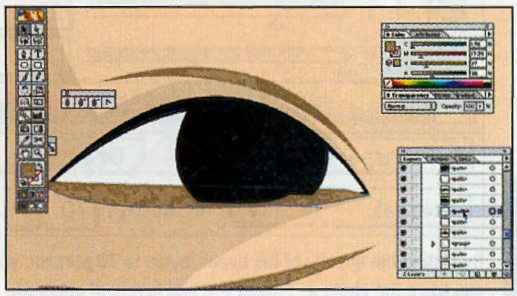


After filling in lips, hair, eyes, nose, and teeth, we have a good preliminary sketch.

6 Fine-Tune Your Sketch

Now that you've got an initial image, take a close look at it and add or delete elements as needed—remember that more is not better for this look. If you have any human figures in your image, pay particular attention to the eyes—they inevitably become the focus of your image, so they really need to look right.

If you've got a bit of artistic talent, feel free to adjust the image at this point by adding depth to hair, fiddling with the shadows, and so on. When adding fine details like wrinkles, keep them minimal—this vector-based look can make people look older if you overdo it.



The eyes are essential to any representation of the human face—take the time to make them look exactly right.

Small adjustments, like those we've made to the stray hairs and the earrings, can have a huge impact on the final image.

David Ross was deposed as *MacAddict*'s art director in a coup d'état led by Christopher Imlay.

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Submit technical questions or helpful tips directly via email (askus@macaddict.com) or c/o ***MacAddict*, 150 North Hill Dr., Brisbane, CA 94005.**

For a beta of Unsupported UtilityX 1.0, see The Disc.

Q I need a serious audio-capture card or device for my new PowerBook G4. What are my options?

A For many years, the Mac reigned supreme in the world of audio recording. No extra hardware was necessary to capture high-quality analog audio—you could just plug devices into the line-level audio-input port. With Apple's latest computers, though, the company has removed the once-ubiquitous microphone port. Why? Apple is banking on more and more audio hardware becoming USB based. Inexpensive USB options such as the iMic (www.griffintechnology.com) allow you to use analog equipment over USB. However, audio professionals will probably need more than this simple but effective solution.

A few higher-end devices use USB, including Tascam's US-428 ($625, www.tascam.com/products/us428) sound-input and mixing-board combination, Roland's great little UA-30 ($430, www.edirol.com), and Onkyo's SE-U55 (about $250, www.onkyousa.com). All of these devices have both digital and analog inputs and provide a good 48kHz input rate. If you need the ultimate in high-quality audio, you might want to check out the very expensive Hammerfall series from RME (www.rme-audio.com). RME provides both PC Card (PCMCIA) and PCI card connections to its high-end breakout boxes. At over $1,000, these devices are a bit pricey for the hobbyist, but for audio professionals they constitute a pretty hot setup.

Q I would love to get into using Mac OS X on my computer, but it won't install because my Power Mac 9500 is not a supported model. What can I do?

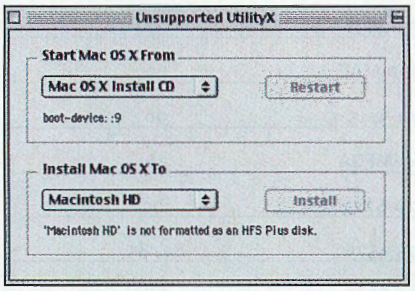
A When Apple announced that Mac OS X wouldn't work on anything older than a G3-equipped Macintosh, many owners of

ILLUSTRATION BY S. BRITT

With a USB capture device, that Cube'd get the job done (if it were right side up, that is).

7500s, 8500s, and 9500s were somewhat shocked to discover that Apple now considered their machines outdated. Fortunately for owners of these 604e-based workhorses, you *can* install OS X on some older Power Macs—but Apple won't help.

Other World Computing's fantastic Unsupported UtilityX (eshop.macsales.com/OSXCenter) can help. This free software will let you install OS X onto many old-world ROM machines like the 7300, 7500, 7600, 8500, 8600, 9500, and 9600 and clones based on them. The list of supported machines changes constantly—visit the site for an update. Just make sure your drives are formatted as HFS+ and you're running Mac OS 9.



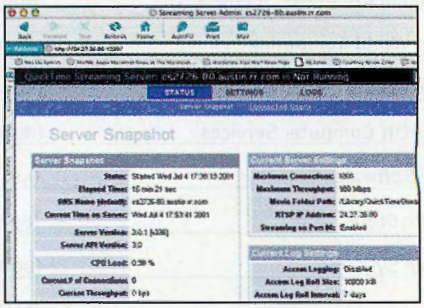
Don't get left out—install OS X onto that 8600!

Q I want to stream my videos over the Web. How can I do this?

A Some confusion surrounds the issue of what exactly constitutes streaming. True streaming works like a radio or TV station—you just tune in and catch the broadcast in progress. Sometimes, though, people use the term streaming more loosely to refer to any media that lets you view or listen as information downloads, instead of requiring that you finish the download first.

In this more general sense, probably the simplest streaming option is a QuickTime movie encoded using the QuickTime Fast Start feature. To make such a movie, just export a normal QuickTime file using the Fast Start option from MoviePlayer (you'll need QuickTime Pro to do this) so viewers can watch the movie as it downloads (or at least as fast as their Net connection can go).

If you want to move up to *real* streaming, your best bet is the QuickTime Streaming Server 3 that comes with Mac OS X Server. To pull this off, you'll need a permanently Net-connected machine on which you can run the server. If you can't afford Mac OS X Server and you're Unix savvy, you might want to take a look at the freely available Darwin Streaming Server—it's harder to configure, but it runs on just about every version of Unix out there, as well as (gack) Windows NT.



QuickTime Streaming Server comes configured with a Web browser—how cool!

Q My company has installed a VPN (Virtual Private Network) on our network. Our IT guys are clueless regarding the Macintosh. What is VPN for and what are my options for connecting to my own company's network?

A A VPN system is an attempt to balance the needs of telecommuting employees, who require access to the internal network of their company, against the organization's security needs. In a VPN, telecommuters use an encrypted, nonstandard IP protocol to access the company network, leaving it safely closed to ordinary Internet users. A user needs special client software and configuration information to gain access. Currently, most VPN makers are PC oriented and tend to treat Mac users as second-class citizens. That said, you have some good options for accessing a VPN with your Mac.

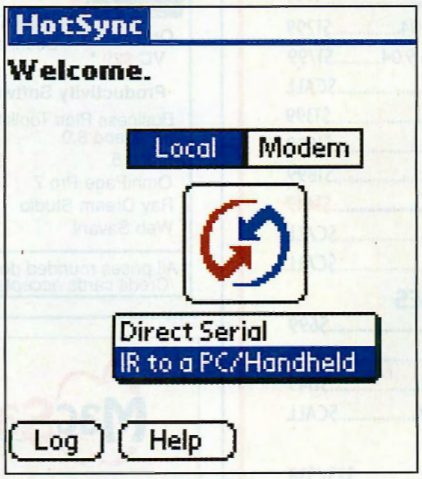
Most client software—for example, the Cisco VPN 5000 (www.cisco.com/univercd/cc/td/doc/product/aggr/vpn5000) and the Intraport VPN software (www.intraport.com)—requires a specific type of hardware on the network end. Neon Software (www.neon.com) claims to be working on a more generic solution called VPCom, but hadn't released the program as of press time. For the latest news on the state of Mac VPNs, browse on over to the wonderful listing at Macwindows.com (www.macwindows.com/VPN.html).

Q I recently bought a Palm PDA and am confused about what I need to connect it to my Mac. What am I missing?

A Fortunately, Palm has always had Mac users covered in terms of connecting PDAs to computers. Granted, the company hasn't made the process as easy for Mac users as for Windows users, but the option has always been there. Palm's newest PDAs, the M series, have finally gone all USB; this makes them an easy fit for anyone with a USB-equipped Mac (of course, you still have to download the Palm Desktop software!).

What about older Palms? If your Mac is relatively new, you're in luck—you just need to purchase the $40 USB connection kit. If you've got an older Mac with a serial port, you're *almost* in luck—Palms have always supported serial connections. The fly in this ointment is that Palms use the 9-pin serial connector, a longtime standard on PCs, instead of the 8-pin serial connector older Macs commonly use. Palm sells an adapter for about $15, but if you have an old modem cable lying around, you can use it in combination with the 9-pin-to-25-pin serial adapter that ships with some Palms (it's a kludge, but it works!).

Those lucky enough to own a PowerBook or iMac with an infrared port have yet another connection option. If your PDA is running Palm OS 3.3 or 3.5 and your Mac is running Mac OS 9 or 9.1, you can sync your Palm device to your computer via the infrared signal. If your PDA cannot run Palm OS 3.3 or 3.5 but you still want to sync via infrared, you'll need to purchase IRLink from IS/Complete (www.iscomplete.com).



Get in sync—look, Ma, no wires!

Q I want to customize my email address—not just the part before the @ sign, but the part after it. Can this be done?

A What you're saying (in technical terms) is that you want your own *domain name*—that's a Web address for an organization or entity. Imagine Media, the company that publishes *MacAddict*, owns the rights to the domain name Macaddict.com. This name is registered with a company that keeps track of it and knows how to find the www.macaddict.com Web site and the @macaddict.com email addresses.

Creating a domain name is very easy—you can set up the whole thing from a Web browser. First find a Web-based service that can forward all mail from the address you set up to your regular email address. This is great if you change ISPs often—you can keep the same public email address, and you just keep changing the forwarding destination.

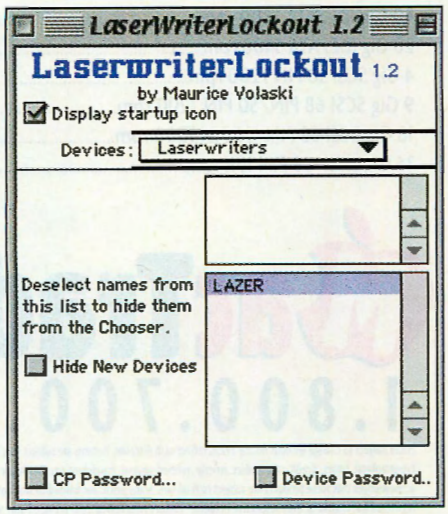
Mail forwarding is a two-step process. First, you must register your domain name (your_name.com). Next, you need to have some company forward mail received at that address to your actual email address.

A variety of Web sites will handle both steps for you. Search for the term "domain names" at google.com to get started. Expect to pay about $30 to $50 a year for domain-name registration and mail forwarding. (Make sure that whatever company you select will handle both jobs.)

Q I am a network admin at a small high school, and we have constant trouble with users printing to the wrong printers or trying to connect to servers they are not allowed to access. Is there a simple solution to prevent users from using certain network printers?

A You can control access to a Mac-based network in various ways, but the Chooser has always presented a sticky problem. Users need to access it so they can set up their printers and get to their servers, but unfortunately AppleTalk displays absolutely everything in the Chooser—every printer, every server, and every zone, regardless of which computer you're using.

A simple software solution called LaserwriterLockout (www.fluxsoft.com) has been around for years. With this free utility, you can configure a computer to use only certain servers and printers, and you can password-protect the same servers and printers. The utility works just fine under Mac OS 9.1, and is worth a try if your high schoolers can't keep their hands off the wrong printers.



No, no—bad puppy, that's not allowed. LaserwriterLockout is in effect!

Buz Zoller is a technology support specialist for a school district in Texas.

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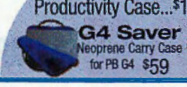

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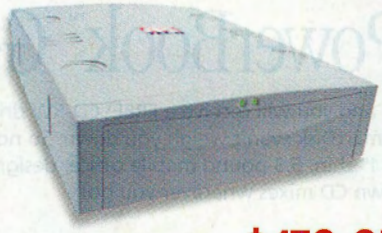

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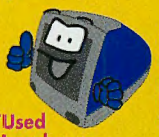

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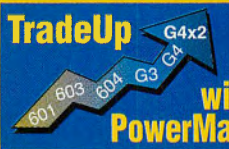

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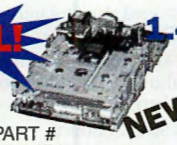

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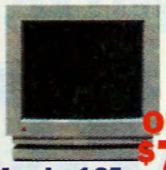

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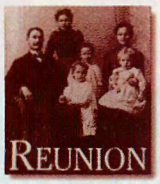

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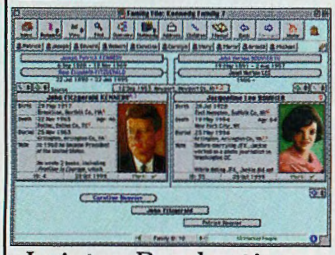

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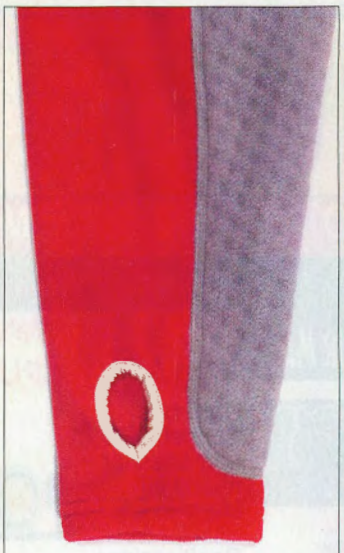

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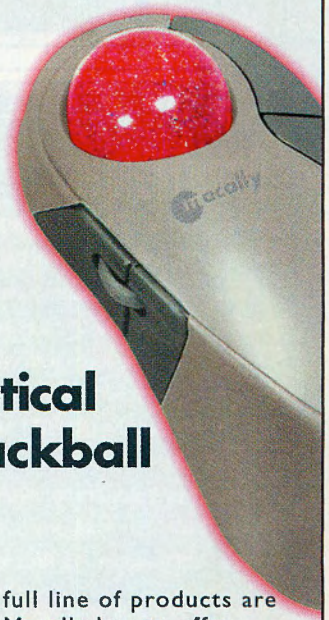

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APPLE DOOMED!

The statistics don't look good for Cupertino firm

CUPERTINO, CA—Despite Apple's recent string of profitable quarters, some analysts today sounded a note of caution regarding the company. Analysts pointed out that Apple's notebook lines (iBook and PowerBook) will vanish completely unless Apple reverses current shrinking trends.

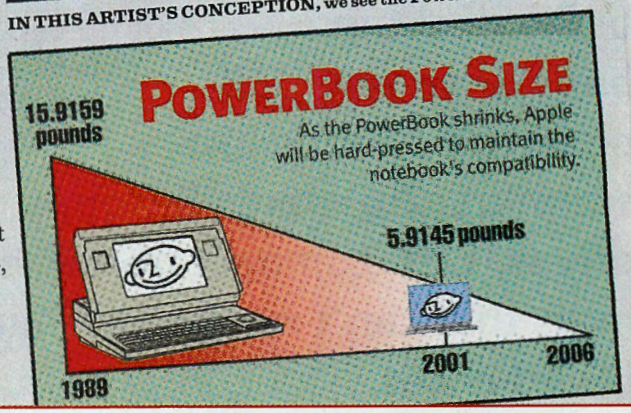
"The PowerBook line, which accounts for an increasingly large share of Apple's revenue, has shrunk to a third of its size over the last decade," said Spectagon Financial analyst Nai Simmas. "Unless Apple can reverse this trend, the PowerBook will disappear entirely by 2006, causing enormous difficulties for Apple's bottom line."

Other analysts were equally downbeat. "Even before the PowerBook vanishes, Apple will run into problems keeping the full feature set intact," according to Yhtac Ul of Stems Rabbit. "When the weight falls below a pound, even the latest battery technologies won't be much use."

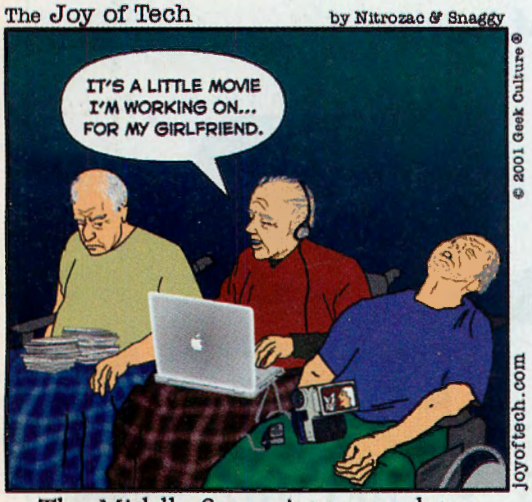
The vanishing PowerBook issue is only one of several problems facing Apple over the next few years. "When Apple first introduced the Macintosh 16 years ago, it earned hundreds of dollars per CPU megahertz (DpCPUMHz)," pointed out Kir Ikswelsym of Worrywart Technical Investing. "With the introduction of the dual 800MHz G4, it's down to about 2 DpCPUMHz. If Apple doesn't turn things around soon, megahertz disposal fees will wipe out its profits."

Apple was unavailable for comment.

IN THIS ARTIST'S CONCEPTION, we see the PowerBook of 2004.



The Joy of Tech by Nitrozac & Snaggy



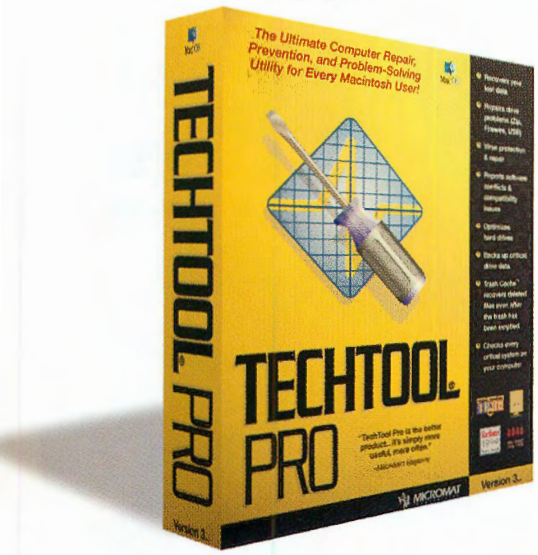
The Middle Seat, sixty years later.

10 Uses for Recalled PowerBook Power Supplies

Back in July, Apple confirmed what most of us already suspected—those black power bricks that came with the PowerBook G3 ran *hot*. Now the search is on to find uses for the toasty little bricks. Some suggestions:

- Glass blower
- Cooking alternative for Sterno (www.candlecorpfs.com)
- The geek's Zippo-lighter replacement
- Have a campfire (S'mores!)
- Forget the microwave—pop popcorn the old-fashioned way
- Collect several for the Fourth of July
- Place it in a burning building, then file a lawsuit against Apple
- Put it next to a Pentium chip to run a heat-shedding comparison
- Use it as a pilot light in a steam-engine train "for retro's sake"
- Dance around it and celebrate the arrival of the yo-yo–style power supply

In with the new...



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In with the newer...

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While Drive 10 is a new product, it is derived from TechTool Pro, Micromat's world-class diagnostic and repair utility. Using TechTool's time-tested routines as well as some new routines developed exclusively for OS X, Drive 10 offers many tools for checking and repairing any drive on your system. Don't entrust your OS X drive to ancient utilities. Protect your data and drive safely with Drive 10.

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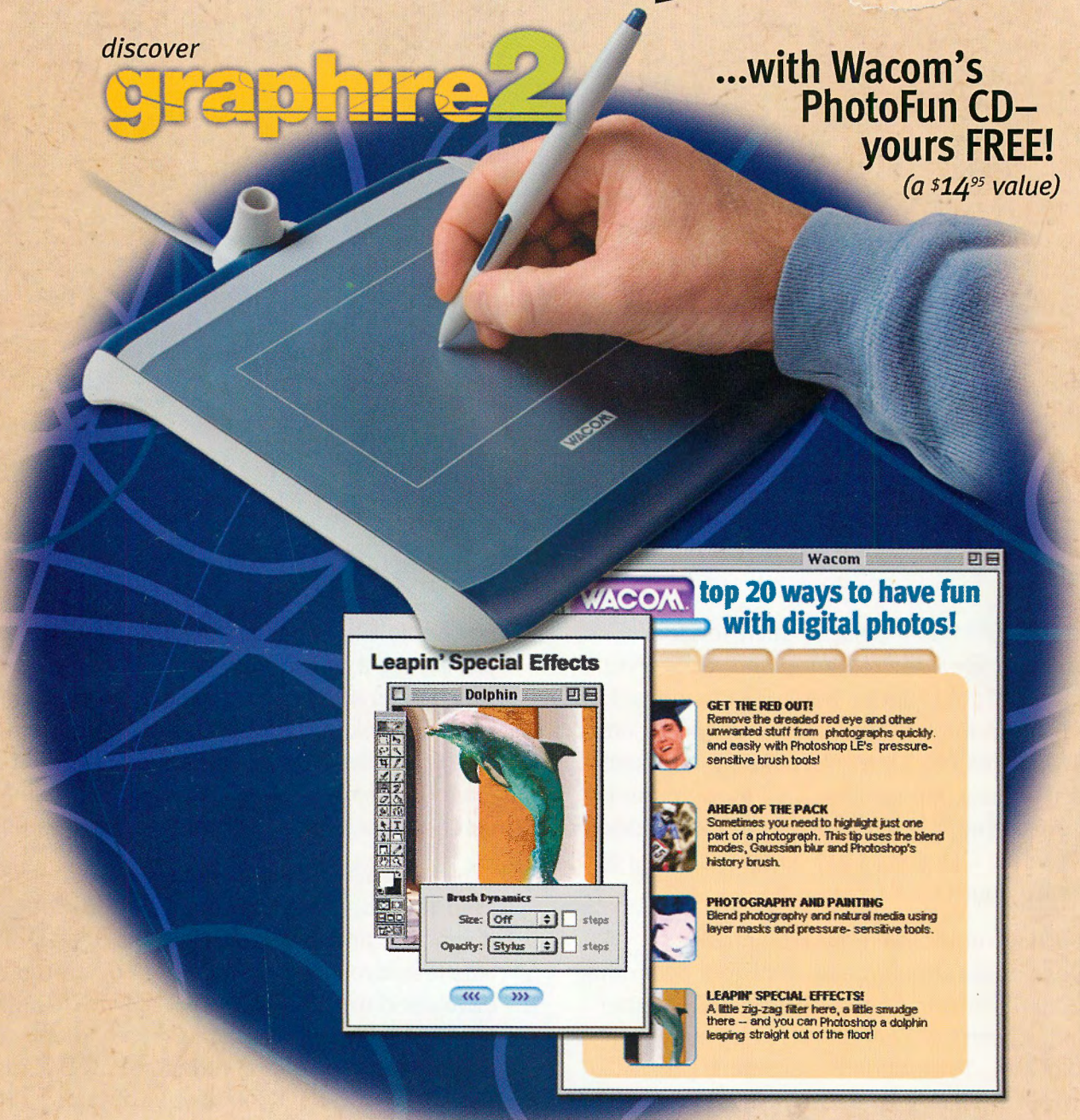

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